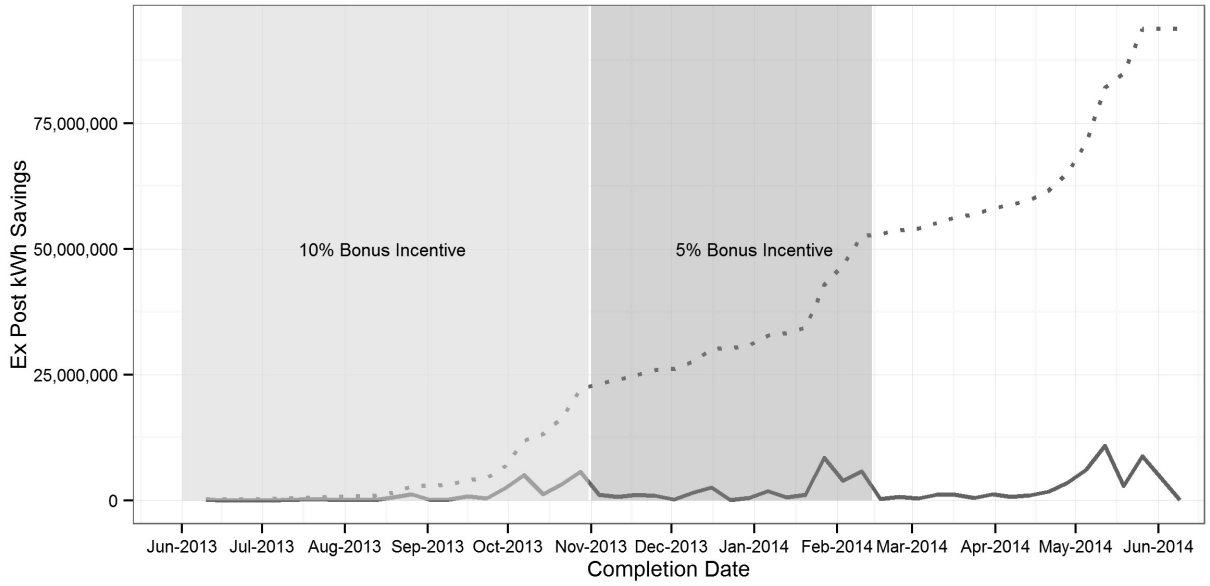


Figure 5-2 Standard Electricity Savings by Final Application Date during EPY6/GPY3

Similarly, Figure 5-3 and Figure 5-4 display the monthly and cumulative natural gas savings for the Custom Incentives and Standard Incentives Programs, respectively. As with electricity savings, there were increases in natural gas project savings shortly before the cutoff dates for the bonus periods. However, approximately two-thirds of custom project savings and one-half of the standard project savings occurred after the bonus period.

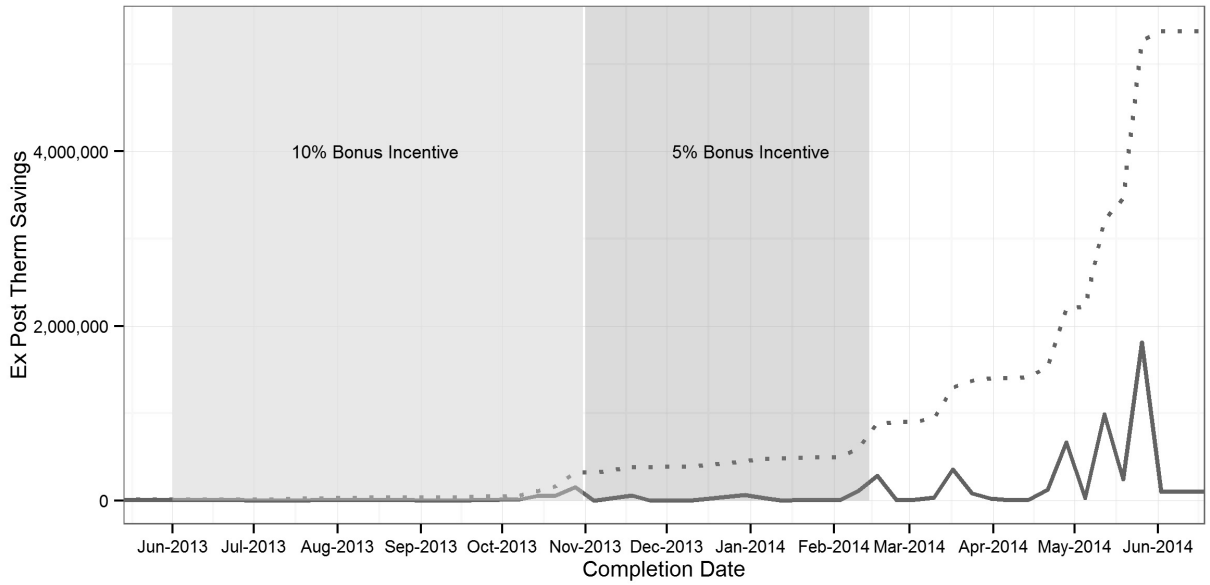


Figure 5-3 Custom Natural Gas Savings by Final Application Date during EPY6/GPY3

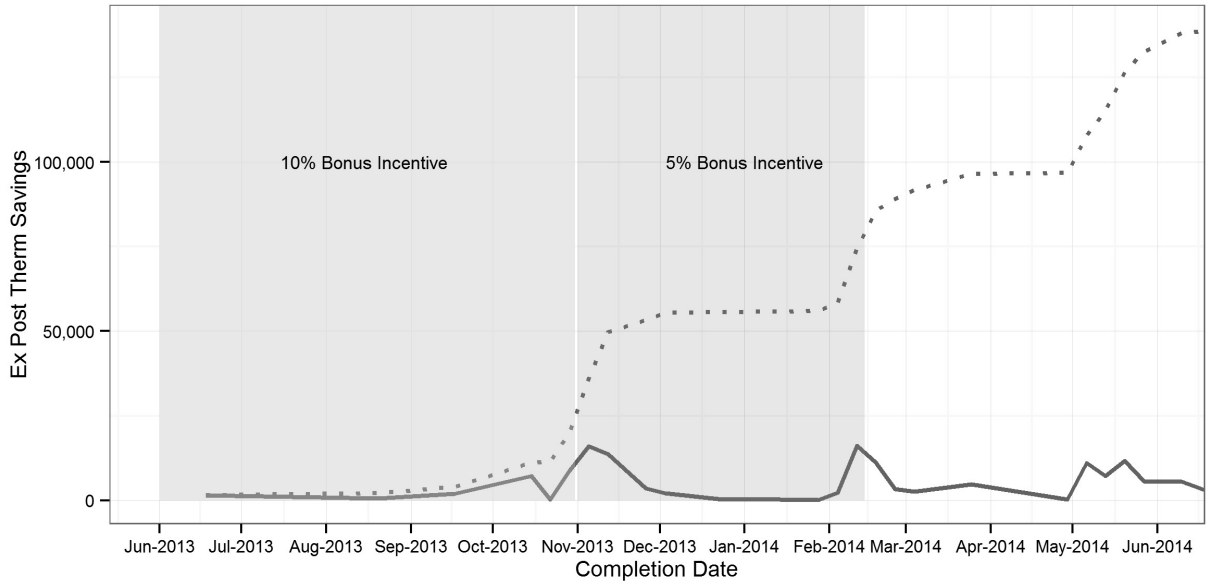


Figure 5-4 Standard Natural Gas Savings by Final Application Date during EPY6/GPY3

5.4.1. **Energy Savings by Applicant Type**

Figure 5-5 displays electricity savings from custom incentive projects by applicant type. As shown, more than one-half of program activity came from local government projects. Universities and K-12 schools also accounted for sizable shares of custom project electricity savings.

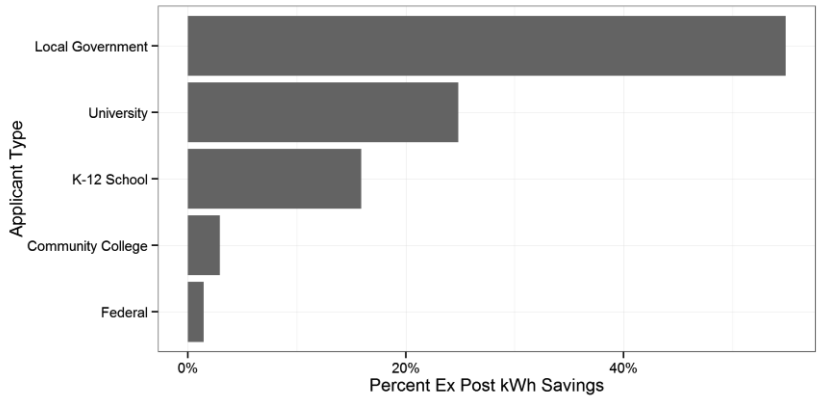


Figure 5-5 Custom Electricity Savings by Applicant Type

However, the amount of savings generated by applicant types varied by the utility service territory. Whereas local governments accounted for approximately two-thirds of program activity in the ComEd service territory, University applicants accounted for approximately two-thirds of program activity in the Ameren service territory.

Table 5-1 Custom Electricity Savings by Applicant Type and Utility

Applicant Type	*Ameren*	*ComEd*
Community College	2%	3%
Federal	4%	-
K-12 School	1%	23%
Local Government	29%	67%
University	63%	6%
Total	100%	100%

K-12 schools accounted for the largest share of standard incentive project electricity savings, although local government accounted for a similar share.

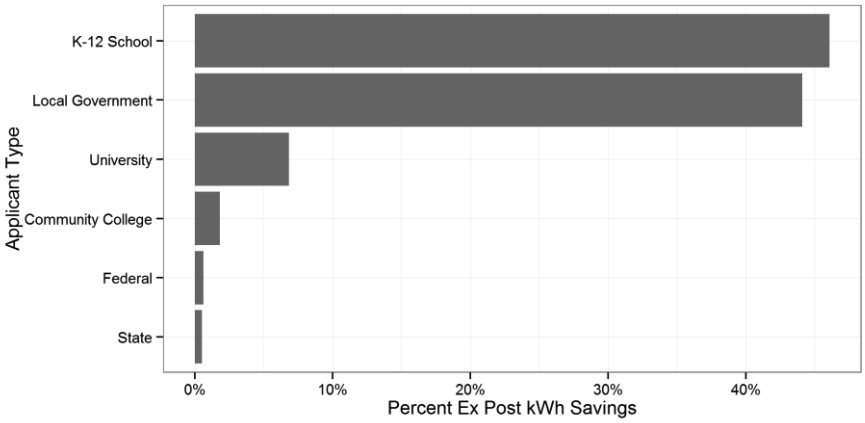


Figure 5-6 Standard Electricity Savings by Applicant Type

Moreover, as shown in Table 5-2, the distribution of savings across applicant types was similar for projects completed in each of the two electric utility service territories.

Table 5-2 Standard Electricity Savings by Applicant Type and Utility

Applicant Type	*Ameren*	*ComEd*
Community College	4%	1%
Federal	1%	1%
K-12 School	39%	48%
Local Government	40%	45%
State	-	1%
University	17%	4%
Total	100%	100%

Figure 5-7 displays the share of Custom Incentive Program natural gas project savings by applicant type. As was the case with custom incentive electricity saving projects, local governments accounted for the largest share of natural gas custom project savings. Universities and K-12 facilities also accounted for larger share of custom natural gas savings.

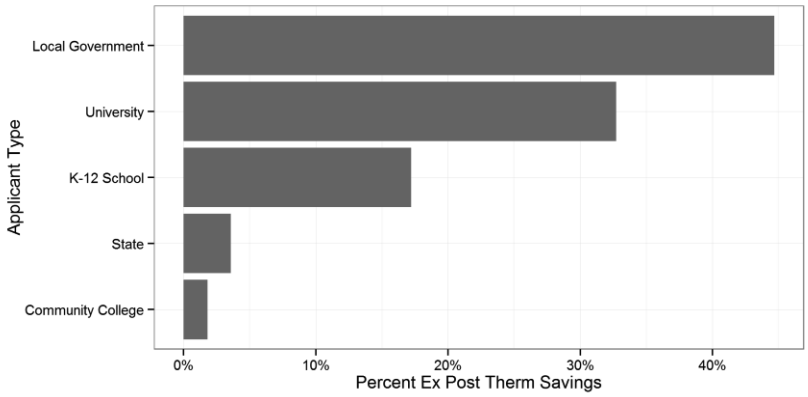


Figure 5-7 Custom Natural Gas Savings by Applicant Type

State university applicants accounted for 86% of custom natural gas savings in the Ameren service territory, and local government applicants accounted for 78% of custom natural gas savings in the Peoples Gas service territory. In the Nicor and North Shore service territories, K-12 schools and local governments accounted for most natural gas savings.

Table 5-3 Custom Natural Gas Savings by Applicant Type and Utility

Applicant Type	*Ameren*	*Nicor*	*North Shore*	*Peoples*
Community College	1%	9%	-	-
K-12 School	5%	36%	54%	16%
Local Government	7%	29%	46%	78%
State	-	17%	-	-
University	86%	10%	-	6%
Total	100%	100%	100%	100%

As shown in Figure 5-8, K-12 schools, followed by local governments, accounted for the largest share of Standard Incentive Program natural gas saving projects.

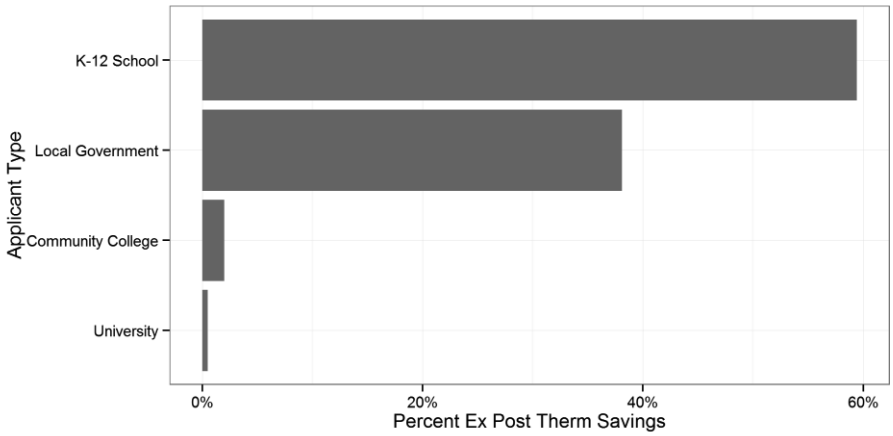


Figure 5-8 Standard Natural Gas Savings by Applicant Type

The distribution of natural gas saving projects in each utility service territory was similar to the program overall, with the exception of Peoples Gas. Savings from K-12 schools accounted for the majority of natural gas standard savings in the Peoples Gas service territory.

Table 5-4 Standard Natural Gas Savings by Applicant Type and Utility

Applicant Type	*Ameren*	*Nicor*	*North Shore*	*Peoples*
Community College	1%	3%	-	-
K-12 School	61%	58%	52%	82%
Local Government	36%	39%	48%	18%
University	2%	-	-	-
Total	100%	100%	100%	100%

5.4.2. **Geographical Distribution of Energy Savings**

Figure 5-9 and Figure 5-10 display the geographical distribution of gross ex post electricity and natural gas savings.

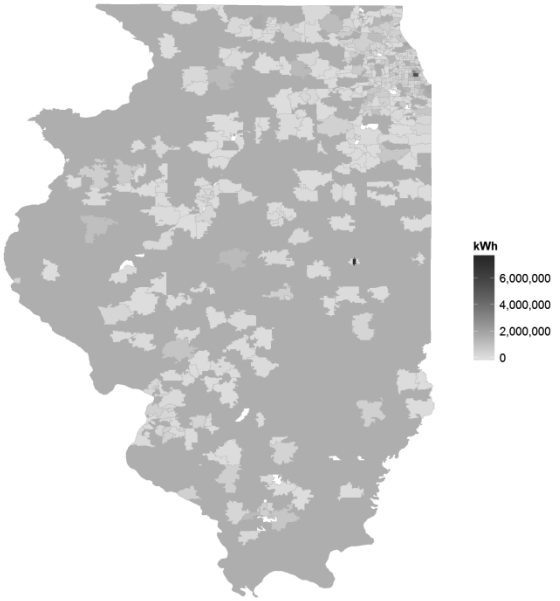


Figure 5-9 Geographical Distribution of Gross Ex Post Electricity Savings

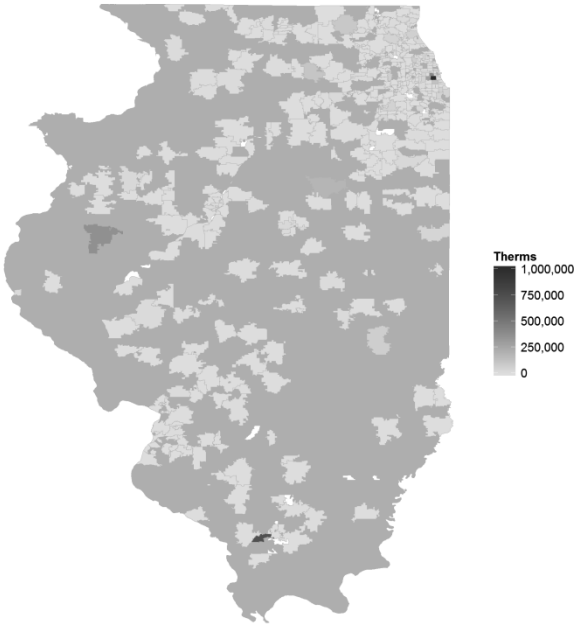


Figure 5-10 Geographical Distribution of Gross Ex Post Natural Gas Savings

5.5. Public Sector Custom and Standard Incentives Programs Operation Perspective

Interviews were completed with two DCEO Custom and Standard Program staff members. The interviews were designed to address topics related to the current progress of the programs, key changes that were made and challenges and success during the program year. Interview topics also included staffing and program design changes, staffs' experience with the new application and database developed for the programs, changes in program participation and reasons for these, and changes in roles performed by program partner organizations.

5.5.1. Summary of Interview Findings

Key trends and issues addressed by respondents include:

- **Program Changes made During the Year:** Interview respondents identified several program changes that took place during the program year, as listed below.

  DCEO implemented a new fillable PDF application and database. This form allows participants complete the form on a computer and submit it electronically. Some challenges with this change included incorrect transfer of records from the old to the new data systems, and staff inability to make changes to submitted applications.

  Program partners adopted the Illinois Energy Now branding. In prior program years DCEO's three partners—Midwest Energy Efficiency Alliance (MEEA), the Smart Energy Design Assistance Center (SEDAC), and the Energy Resources Center (ERC)—have used their own logo and materials to promote the program. The consistent use of the Illinois Energy Now branding avoids confusion in the market and informs potential participants of the program.

  In response to the Federal and State Clean Water Initiatives, DCEO implemented a Clean Water Energy Efficiency Initiative. This initiative directs participants to leverage funding provided by the Illinois EPA and the Illinois Clean Energy Community Foundation to implement high efficiency aeration systems.[5]

  DCEO initiated a data center pilot program for data centers. During EPY6/GPY3, DCEO identified five sites with potential savings, and selected two sites for participation. The data center pilot program is funded with the ComEd grant for the Savings Through Efficient Products (STEP) Program implemented by MEEA. MEEA is assisted by Willdan Energy Solutions in delivering the program.

  Audits will be performed and an implementation roadmap will be prepared during the coming program year for the selected sites.

[5] DCEO (2014). *Clean Water Energy Efficiency Initiative: Addendum to Public Sector Enegy Efficiency Program 2014-2015.* *http://www.illinois.gov/dceo/whyillinois/KeyIndustries/Energy/Documents/Clean%20Water%20Energy%20Efficiency%20Initiative%20PY7%20Final.docx*

DCEO offered an additional bonus incentive for large scale natural gas saving projects referred to as the High Impact Natural Gas Efficiency (HINGE) bonus. This incentive provided additional incentives for natural gas saving projects that resulted in gas reductions greater than 50,000 therms.

The Assistant Deputy Director left DCEO during the first quarter of 2014. This position has since been filled.

- **Program Challenges**: The DCEO public sector programs have had ongoing challenges in reaching the municipal market. A key issue identified by program staff is the franchise agreements between investor owned utilities and municipalities. These agreements include provisions that reduce or eliminate the direct cost of electric and natural gas service to the municipalities.[6] As such, they reduce the incentive for municipal organizations to implement measures that reduce energy consumption including installing energy efficient equipment. Program staff noted that municipalities cannot always complete the large projects they would like to because of such restrictions.

  Another barrier to program participation is the timing of the school year. The summer months, when most schools have time to complete projects, coincides adversely with program deadlines. The program deadlines are particularly problematic for HVAC measures because of the required downtime for retrofitting during cold months. Overlapping program years and extending projects to three years could help alleviate this problem.

  Program staff noted that the DCEO public sector programs have not been reaching the natural gas savings goals in the Nicor and North Shore service areas. Factors may include lack of customers, and franchise agreements that reduce incentives for efficiency projects. Staff stated that there have been recent efforts to identify public sector decision makers and inform them about program offerings by collaborating with the Metropolitan Mayors Caucus.

- **Program Successes**: The Public Sector Custom and Standard Incentives Programs have seen increased natural gas saving measures with the exception of Nicor and North Shore. Program staff reported that there have been more incentivized natural gas measures this program year than in the previous two program years. The increase in natural gas measures resulted from the HINGE program, which provides bonus incentives for projects with savings exceeding 50,000 therms.

  The Illinois Energy Now Programs have also experienced increased participation from water treatment facilities during EPY6/GPY3, as a result of their Clean Water Energy Efficiency Initiative.

[6] TechLaw, Inc. (2009). *Utility Franchise Agreements Summary Report. Research on Municipal Franchise Agreements Gas and Electric Utilities. http://epa.gov/r5climatechange/pdfs/franchise-agreement-report.pdf*

- **Future Program Plans:** Several changes are planned for the upcoming program year. During EPY7/GPY4, DCEO will introduce partner bonus coupons for program participants. These coupons will increase incentive amounts by 15%. If a participant attends a Trade Ally sponsored event, a partner event, or participates in a partner program such as a SEDAC Energy Assessment, they will receive a coupon for increased custom and standard incentives. Staff indicated that customers respond well to the bonus programs and that the coupon is another way to drive participation.

  SEDAC will host a call center for all Illinois Energy Now Programs. It will be the primary customer support line for participants who have questions regarding applications, program guidelines, or technical support. The objective of the call center is to further streamline communication and reduce the administrative burden on DCEO program staff.

  The following measures will be added to the standard list of measure offerings: multi-level light switching, occupancy controlled bi-level lighting fixtures, demand controlled ventilation, solar light tubes, compressed air low pressure drop filters, compressed air no-loss condensate drain, interior induction lighting, cold cathode lighting, and kitchen equipment.

  Lastly, two of the EPY7/GPY4 deadlines were moved up by several weeks. The deadline for submitting new pre-approval applications was moved from April 15th to April 1, 2015 during PY6. The deadline for completing projects and submitting final applications has been moved from May 15th to May 8, 2015..

5.6. Public Sector New Construction Program Participant Profile

Figure 5-11 displays the share of electricity savings from new construction projects by applicant type. Savings were evenly distributed across applicant types, although no projects were completed by state government buildings or community college applicants.

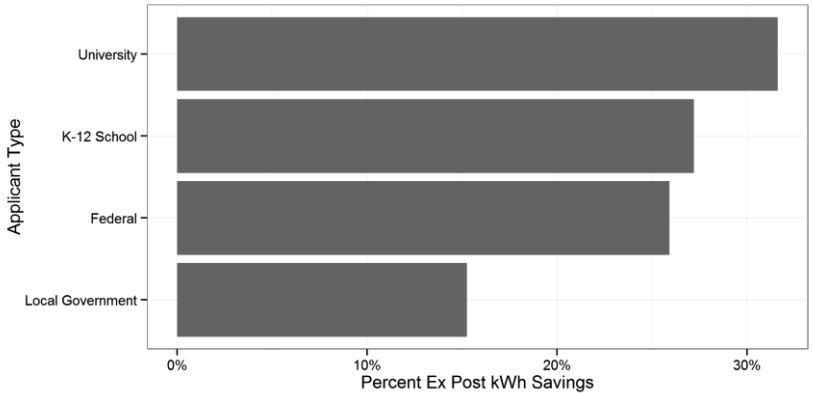


Figure 5-11 New Construction Electricity Savings by Applicant Type

Table 5-5 displays the distribution of projects across applicant types by utility service territory.

Table 5-5 New Construction Electricity Savings by Applicant Type and Utility

Applicant Type	*Ameren*	*ComEd*
Federal	-	43%
K-12 School	16%	35%
Local Government	4%	22%
University	80%	-
Total	100%	100%

Figure 5-12 displays the share of natural gas savings from new construction projects by applicant type. Local government buildings accounted for the largest share of new construction natural gas savings. No state, community college, or federal applicants completed gas saving projects.

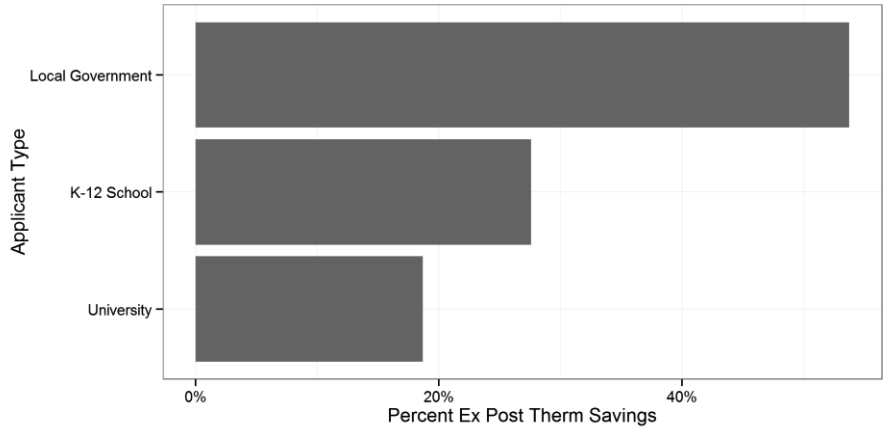


Figure 5-12 New Construction Natural Gas Savings by Applicant Type

Table 5-6 displays the distribution of projects across applicant types by utility service territory.

Table 5-6 New Construction Natural Gas Savings by Applicant Type and Utility

Applicant Type	*Ameren*	*Nicor*
K-12 School	-	36%
Local Government	17%	64%
University	83%	-
Total	100%	100%

5.7. **Public Sector New Construction Incentive Program Operations Perspective**

Interviews were conducted with three New Construction Program staff members; the DCEO Program Manager, Program Director and the Assistant Director for Program Monitoring and Evaluation at SEDAC. The interviews addressed current program operations, changes made during EPY6/GPY3, planned changes for next year, as well as the program's greatest successes and challenges. The conversations also touched on staffing and the new database.

5.7.1. Summary of Interview Findings

Key trends and issues addressed by respondents include:

- **EPY6/PY3 Program Changes:** As the Public Sector New Construction Program continues to evolve and attract more participants, staff has streamlined internal project management and communication. During EPY6/GPY3 staff worked to refine the incentive review process begun when pre-applications are submitted. In prior years staff would conduct a comprehensive review of all construction documents including those project aspects that were not being incentivized, such as plumbing. The application volume has since increased and staff has consolidated their efforts to only focus on design elements that are incentivized, and have potential to save energy. Feedback indicates that these changes have decreased the time and effort required to complete an incentive review; staff report this allows for increased volume with the same resources.

  Education and outreach was prioritized during EPY6/GPY3. To support the professional development of SEDAC program staff, all staff members received training on the new ICC 2012 Commercial Building Code. Staff explained that it is critical that program staff is familiar with code requirements, and comfortable interpreting and explaining its technical application because the commercial building code is used as the baseline scenario that energy savings potential and incentives are calculated.

  Other education and outreach efforts have focused on external communication with applicants, and the development of targeted marketing material. During EPY6/GPY3 staff educated applicants about program guidelines and the two participation paths, the prescriptive approach or the whole building model approach. Each path has different participation and technical requirements, causing confusion among some participants. Staff educated participants early in the design process to ensure that the energy efficiency features and other requirements were understood.

  SEDAC hosted several workshops for architects and building owners during EPY6/GPY3. Workshops were held throughout the state of Illinois and provided participants with resources on buildings codes, energy savings opportunities, and general information about the program. Marketing materials such as energy saving tips, frequently asked questions and an owners guide for new construction were distributed at events, and made available on the website, as displayed in Figure 5-13 below. Staff indicated that the new marketing materials help clarify program offerings and serve as an effective medium for communicating the benefits of energy efficiency to New Construction Program stakeholders.

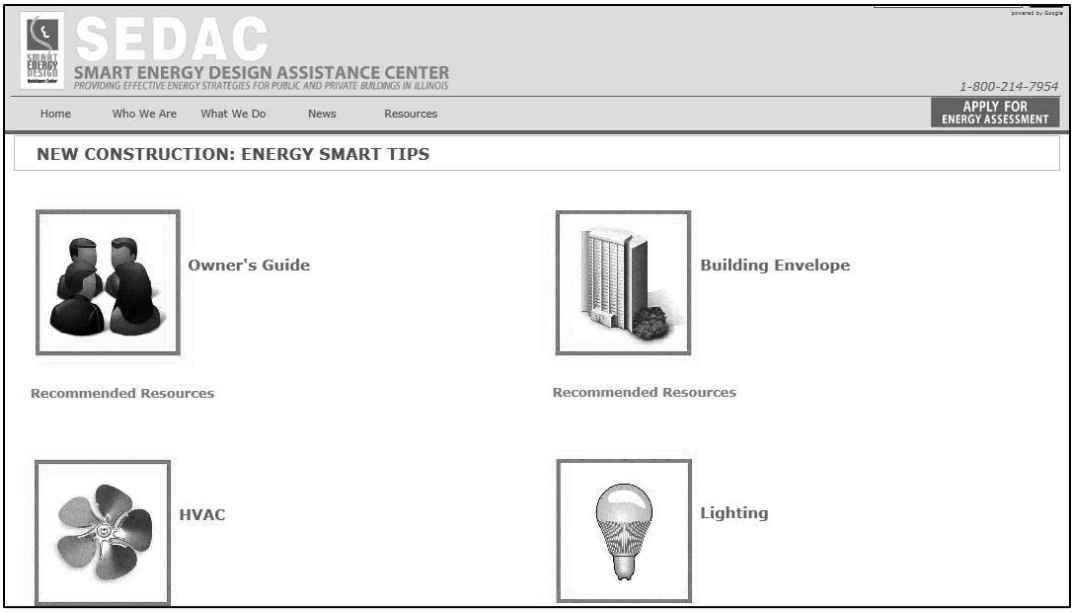


Figure 5-13: SEDAC Website – Smart Energy Design Tips

- **Program Successes**: The program continued to offer prescriptive incentives during EPY6/GPY3. Staff received positive feedback from participants about the incentive change, and stated that it made the application easier and more straightforward.

  There has been a significant increase in program activity. More applications were received during EPY6/GPY3 than in any previous program year. Staff noted that increase in activity occurred at the end of the program year. This was influenced by the fact that minimum buildings standards would be increasing in EPY7/GPY4, and the IECC 2012 would be adopted.

  Table 5-7 below provides a summary of program activity over the last three program years. According to feedback from staff, school districts and community colleges are the two sectors that have had the greatest increase in program participation.

Table 5-7 Summary of New Construction Program Activity

Program Year	*Incentive Reviews*	*Incentivized Projects*	*Total Incentives Paid (Including Gas & Electric)*
PY4	6	6	11
PY5	5	6	9
PY6	15	10	18

- **Program Challenges:** Both DCEO and SEDAC staff have stated that they are working to improve how project information and records are shared. Proactively tracking and managing projects has become more challenging as program activity increases. One aspect of the challenge is the lack of a system that works both to track projects through pre-application to

final completion, and to track and account for program expenditures. The program accounting procedures operate well if projects that are initiated during the program year are completed during the same program year. However, this situation makes it difficult for the program to track projects that apply for pre-approval review through to completion because projects submitted for pre-approval review are often not completed in the same program year. As a result, program staff has put off entering projects into the data system until a final application is submitted. The disadvantage of this "work around" is that it creates difficulty a project from pre-approval to completion. Another limitation of the project tracking system is that, at the time of the interview, it was not set up to administer the new construction prescriptive incentives, which differ from the retrofit standard incentives. Future modifications to the database should address this issue.

Another issue, noted by SEDAC staff was that program participants often request some administrative costs to be covered by program funds. Currently, administrative costs are not eligible for reimbursement. Staff noted that public agencies have strict guidelines on timekeeping that require all hours worked to be billed against some budgetary item. While technical and engineering efforts are covered, general administrative functions are not. Participants have noted this as a barrier to participation.

- **EPY7/GPY4 Planned Changes:** Several changes are planned for the upcoming program year. During EPY7/GPY4 the New Construction Program will incorporate the new IECC 2012 and ASHRAE 90.1-2010 building codes, which will become the new baseline for all new construction projects that begin after January 1st, 2013. Staff stated that minor adjustments were made to the prescriptive incentive levels to align with changes made to all DCEO Public Sector Programs.

  Staff developed an intake checklist that program staff are required to complete when reviewing pre-approval applications. The checklist allows for a more systematic and efficient screening of applications in order to quickly identify projects or applications that needs additional support. The intake checklist was developed as a quality assurance tool to ensure consistency with application processing and document collection.

5.8. State Buildings Sector

In order to better understand potential barriers to energy efficiency in the state buildings sector, ADM completed targeted research that involved a review of the policy environment as it relates to energy efficiency in the state buildings sector and in-depth interviews with key informants. Specifically, ADM completed interviews with key staff from the Illinois Department of Central Management Services and the Illinois Capital Development Board. These agencies play critical roles in the implementation of energy efficiency measures in state buildings. ADM also interviewed staff from a large state agency that had recently overcome barriers to implementing energy saving projects. Interviews lasted approximately 20 minutes to one hour. The objective of these interviews was to better understand potential barriers to efficiency in state buildings.

5.8.1. Energy Efficiency Policy Context

The key legislation and executive orders pertaining to energy efficiency in state buildings are summarized below.

- **Public Act 095-0612 of 2007:** Public Act 095-0612 amended the Local Government Energy Conservation Act, the School Code, the Public University Energy Conservation Act, and the Public Community College Act to facilitate local governments and public schools, colleges, and universities entering into energy service contracts. The intent of the legislation was to promote flexibility in the means by which these entities procure and install energy conservation measures.
- **Green Buildings Act of 2009:** The intent of the Green Buildings Act was to reduce energy costs for public buildings and reduce the state's overall energy use. The act established new standards for state-funded building construction. The act requires state-funded buildings to meet LEED or Green Globe standards. Certification is not required for buildings of less than 10,000 square feet. Waivers from the requirements may be granted on the basis that the requirements would create an unreasonable financial burden, create an unreasonable impediment to construction, impair building functioning, or compromise the historic nature of the building.
- **Agency Energy Efficiency Act of 2007 (Public Act 095-0559):** The Energy Efficiency Act required all executive branch state agencies to reduce facility energy use by 10% within 10 years of the effective date of the Act. The Act directs state agencies to work with the Department of Central Management Services (CMS) to achieve this goal. CMS's role is to ensure that all existing State energy efficiency objectives are achieved, provide technical expertise for implementation of the policies, and implement an energy efficiency information system to measure progress towards the goal. The Act directs agencies to implement energy information systems to track energy use, purchase Energy Star equipment unless CMS waives the requirement based on justifications provided, form an internal committee to assess the environmental impacts of that agency's activities and identify ways to conserve energy.
- **Executive Order 7 of 2009:** EO 7 directs Central Management Services to implement a program to increase energy efficiency, track and reduce energy usage, and improve the procurement of energy for all state-owned and state-leased facilities for all agencies. The Order establishes the Energy Efficiency Committee that comprises members from DCEO, the Capital Development Board and is chaired by Central Management Services. The committee oversees energy audits in State facilities and the implementation of those recommendations, enter into contracts for equipment services designed to decrease energy consumption in state-owned or state-leased facilities or equipment, and to coordinate with state agencies to establish individual budget line items for acceptance of energy efficiency incentives available through State and private programs.

- **Executive Order 11 of 2009:** EO 11 includes a number of provisions related to energy efficiency. These provisions include directing State agencies to reduce electricity and natural gas consumption at state owned facilities by 25% by July 1st 2025, as compared to fiscal year 2008 levels; to the extent feasible, achieve building energy performance criteria necessary to attain ENERGY STAR® qualification in all eligible state owned buildings by July 1st, 2015 and where possible achieve LEED status; and increase purchase of renewable energy so that by 2015 50% of overall energy use is generated from renewable energy and that 100% is from renewable energy by 2025.

5.8.2. Key Findings from Interviews with State Building Staff

Interviews were completed with staff from the Department of Central Management Services (CMS) and the Capital Development Board (CDB). These agencies play important roles in the adoption of energy saving measures in state buildings. CMS has management authority over several facilities in the stated and CDB is responsible for funding capital improvement projects on behalf of state agencies. In addition to interviews with these agencies, staff members from a large state agency that has been successful in the program were also interviewed. Both staff members interviewed were involved in the agencies adoption of energy efficiency measures.

- **Decision Making Authority for Building Retrofits Varies by Facility:** CMS is responsible for leading the state's energy efficiency initiative, but does not have operational control over all facilities. Agencies may self-manage all, or some of their facilities, while CMS manages others. Some agencies occupy leased space or multi-tenant state owned buildings (e.g., Department of Children Family Services). While the state does not make investments in leased facilities, CMS has control over multi-tenant state owned buildings.
- **Building Retrofit Project Funding Process Dependent on Scope and Sector:** Most significant energy saving projects in state owned buildings require a capital budget request and approval by the Capital Development Board (CDB). The project cost and scope determine which projects require CDB approval. For example, a lighting retrofit in a single room in a building would not require CDB approval, but retrofitting a large portion of a building's lighting would. CDB receives budget allocations to fund and manage projects in state owned buildings. Capital development funding operates differently for universities and community colleges. Universities fund capital improvements through their own budgets and CDB receives an appropriation to manage the process. For community colleges, projects are funded with local funds and matched by state dollars.
- **Meeting Required Energy Savings Targets:** As presented above, state policy encourages energy efficiency and sets targets for reduced energy use in state facilities. CMS is primarily responsible for implementing this effort, but staff noted that the responsibility is split with the other state agencies for facilities that CMS does not directly control. Missing targets is allowed if sufficient funding is not available to meet targets. Currently the demand for capital development funds exceeds what is available and often other priorities for funds take

precedence. Staff at CMS reported that the state is using performance contracting to bridge the funding gap to meet savings targets.

- **Performance Contracting:** There have been recent changes to the requirements for performance contracting by the state including a change in CMS's authority to enter into performance contracts. Previously, CMS was given authority to enter into performance contracts on behalf of agencies as part of their role as the state's procurement authority. Currently CMS sets up performance contracts by entering into inter-agency agreements for state owned facilities that CMS does not have appropriations authority for. One interviewee described CMS's role in performance contracting as supervisory.

  CMS staff stated that there are no significant barriers to the state entering into performance contracts. The state currently contracts performance contractors. In previous years, lack of familiarity with the request for proposal process led to hesitancy to enter into performance contracts. Multiple interviewees provided favorable assessments of the state's progress in entering into performance contracts.

- **Age of Equipment in State Buildings is a Potential Barrier:** The state has a number of buildings that have systems that are more than 50 years old. The cost of retrofitting older equipment can be prohibitively high as rebate dollars and efficiency gains do not fully offset the cost of retrofitting old equipment to modern equipment.

- **Potential for Split Incentives for Energy Efficiency Investment:** Utility costs are funded at the agency level. For facilities managed by CMS, utility costs are included in the rate structure CMS charges to manage facilities on behalf of other agencies. In these cases, CMS also helps set up capital improvements for these agencies. In most cases, significant building energy efficiency retrofits would require capital requests funded and approved by the Capital Development Board. However, during the interview it was emphasized that the State has an interest in investing energy efficiency for state owned facilities and that this is being done on an "increasingly aggressive scale."

- **Funding Constraints are Significant:** State funding constraints have presented a significant barrier to completion of efficiency projects. Agencies receive few funds for facility maintenance and there has not been a capital budget appropriation in several years. Many facilities have deferred maintenance for issues such as broken equipment. There is currently a waitlist for capital funds, and capital improvement projects are funded on an emergency basis. An interview respondent from a state agency indicated that they typically issue large annual capital fund requests that go unfunded. The funding of projects on an emergency basis may also restrict opportunities to implement energy efficient equipment because of a lack of time to plan a project to minimize energy use and to apply for EEPS incentive funds. Other state funded public entities such as universities and agencies that receive federal funds such as the Illinois Department of Military Affairs have other sources of funds that can be used.

- **New Construction Barriers:** Two main barriers to completion of new construction projects were identified. The first barrier is that the grant cycle period requires new construction projects to be completed in the same year the grant is awarded. Allowing the grant to carry-over could facilitate projects that require a longer timeline. The second major barrier is that the new construction program does not provide incentives to design professionals to incorporate program compliance into a project. Design professionals typically seek additional compensation to comply with program requirements which add to the overall project cost.
- **Lack of Budget Line Items to Receive Incentive Funds:** Multiple interviewees mentioned that financial incentives may have limited impact when the incentive dollars are returned to a general fund rather than the agency budget funding the project. Under these conditions, the project costs cannot be recouped through incentive payments. One state agency developed a resolution that involves financing projects through a fund used to manage cash flow rather than through the facility budget. This strategy could be implemented by other agencies. However, ongoing agency budget cuts may limit the long term viability of this strategy.
- **Program Support Facilitates Projects:** Interviewees mentioned two forms of program support that were particularly valuable to assisting in the development and completion of energy saving projects in state buildings. These were information and assistance provided by the Energy Resources Center, and the facility audits provided by the Smart Energy Design Assistance Center.

5.9. Chicago Metropolitan Area Local Governments

To better understand barriers that exist for local government agencies, and for municipalities in particular, ADM completed in-depth interviews with seven local government agencies in the Chicago Metropolitan Area that have received incentives for the DCEO public sector programs. Additionally, a survey was administered to a sample of members of the Mayors Metropolitan Caucus (MMC). MMC, which supports the delivery of DCEOs incentive programs to municipalities in the Chicago area, provided ADM with contact information for its membership. The survey targeted nonparticipants, but some respondents indicated that their organizations had previously participated in the DCEO programs.

The purpose of the interviews and surveys was to understand the following:

- What factors limit municipalities and other local government agencies from participating in DCEO incentive programs?
- What aspects of the program have been influential in encouraging the development of energy saving projects?
- Are there barriers to participation that have an impact on natural gas saving projects in the Nicor and North Shore service territories?

- How can the DCEO programs be improved to better meet the needs of municipalities and other local government agencies?

5.9.1. Participating Local Government Decision Maker Interviews

Semi-structured interviews were completed with representatives of seven local government agencies that had either completed a project or had a project initiated through the DCEO programs at the time of the interviews. Six of the interview respondents were from municipalities and one was from a park district. The interview respondents discussed the following topics during the interviews:

- Previous experience with DCEO programs;
- Project development and completion; and
- Suggestions for improving the programs and outreach to local governments.

5.9.1.1. Previous Experience with DCEO Programs

The number of years of experience interview respondents had with the DCEO incentive programs and the number of projects they had completed varied. One respondent from a park district had a project in progress but had not yet completed a project. When asked why they had not completed a project, the respondent stated that they had been aware of the programs but that "government works slowly." Most of the remaining respondents had completed their first project around the time that the EEPS program funding became available. All of these respondents had completed multiple projects. The final respondent was relatively new to their position and could not provide information on when the municipality had begun participating in the programs.

A common theme that emerged from discussions of how local government agencies first became involved in the program was that key gateways to projects were provided by both building audits conducted by SEDAC/360 Energy, and the technical assistance provided by 360 Energy. For some respondents, these services provided an introduction to the programs and for other respondents technical services were instrumental in identifying additional projects as well as providing equipment recommendations and financial analyses that facilitated project decision making.

5.9.1.2. Trade Allies and Technical Assistance

Four of the interview respondents emphasized the value of the technical assistance provided through audits performed by SEDAC or through 360 Energy's partnership with the MMC for developing and planning projects. One interview respondent described the audits as more credible and trustworthy than assessments provided by contractors or others who would financially benefit from project implementation. Another respondent stated that the audits provided information needed to develop bid specifications. A different respondent said they

relied on the technical service provided by the programs because they do not have the capacity to identify energy saving projects.

Two participants discussed seeking external technical assistance that was not provided by DCEO. One participant contracted with an engineering firm to design an HVAC system and another was looking to complete an assessment of their facilities to identify energy saving improvements.

Another issue, mentioned by two participants, was that contractors were not considered a trustworthy source of information. This may limit the effectiveness of trade allies as a technical resource for local agencies and as a mechanism to drive program activity.

5.9.1.3. Experiences with Natural Gas and Electricity Saving Projects

Interview respondents were asked to discuss their experience and plans for electricity and natural gas saving projects. One respondent stated that the incentive dollars were available for electricity saving projects prior to the availability of incentives for natural gas saving projects. This respondent indicated they had plans to complete natural gas saving projects in the future, but were currently implementing electricity saving projects because these incentives had been available longer. Differences in the incentives coverage of the project cost and the payback associated with gas and electricity saving projects was also noted. Specifically, one respondent noted that electricity saving projects tended to have shorter payback periods and two others stated that the natural gas incentives were smaller, in terms of the share of equipment cost that they cover, than the electric incentives.

In contrast to these responses, one of the interview respondents indicated that from her perspective, there was not a structural difference between the natural gas and electricity incentives available that would result in her organization favoring one type of project over the other.

Overall, the two primary factors respondents discussed that could result in the implementation of fewer natural gas saving projects than electric saving projects were that the natural gas incentives were more recently made available and that the natural gas incentives tend to cover less of the equipment cost. However, neither of these factors is unique to organizations operating in the Nicor service territory. As such, they do not explain the greater difficulty DCEO has had in achieving its natural gas saving goals in that territory.

5.9.1.4. Payment of Utilities

Some municipal organizations have franchise agreements with their electricity and natural gas service providers that cover a portion or all of their energy costs. Interview respondents were asked to discuss whether or not their organizations covered the cost of natural gas and electricity use and what impact, if any, this had on their decisions to implement energy saving projects.

Most of the respondents from municipalities indicated that they do not pay the full cost of their natural gas and electric service and one indicated they pay for the electricity service but not their natural gas service. The respondent from the park district stated that the park district pays the full cost of their utilities.[7]

Only one of the interview respondents stated that the franchise agreements reduce the number of energy saving projects that they would otherwise complete. The remainder gave various reasons for why the franchise agreements did not impact the number of projects they complete. Those interview respondents who indicated that the franchise agreements did not impact their organization's decisions about implementing energy efficient equipment gave a variety of reasons for this. A common reason given for justifying the investment in more energy efficient equipment was the organizations interest in meeting sustainability goals, reducing their carbon foot print, or other environmental benefits. Others noted that they justified investments in energy saving equipment based on reduced maintenance costs and because the investments cut utility costs that are subsequently passed on to inhabitants of the municipality.

5.9.1.5. Decision Making Process

Interview respondents described the decision making process for energy efficiency investments in their organizations. A common theme was that multiple decision makers are involved in these decisions. Often, projects are initiated by a facility manager or a person in a similar role; however one respondent indicated that the municipality employs capital project engineers who also initiate projects. Other managers, such as the village manager and finance directors, are also typically involved in the decision making process as well. Ultimate responsibility for approving projects resides with the governing board for the municipality, city council, or mayor.

Most respondents reported that they were responsible for identifying and lining up grant funding opportunities, such as the funds provided by DCEO, for projects. However, two respondents reported the availability of additional resources. One respondent indicated that they have a staff member whose role is to identify grant funding opportunities for the municipalities and the other respondent worked with an external consultant to identify grant-funding opportunities.

Decision makers from the municipalities reported that they generally receive multiple bids for projects. The multiple bid process was not generally seen as a barrier, although respondents considered it to be a time consuming process. One respondent reported that multiple bids can complicate projects if the equipment specifications are not well defined in the bid requests. This respondent described an experience where multiple contractors returned proposals with varied types of equipment and costs, which necessitated further research on his part to identify the best

[7] Only municipalities enter into franchise agreements.

proposal. The respondent noted that one of the advantages of the technical services provided by DCEO is that equipment specifications are well defined which facilitates the bidding process.

Interview respondents reported using several financial metrics to evaluate energy efficiency projects such as project cost and maintenance costs. Some respondents reported that they also use payback and return on investment as financial metrics even when their organizations are not directly responsible for the cost of the utilities.

Respondents explained that projects were financed in a variety of ways including through ongoing operations and maintenance budgets, capital project budgets, or other budgets that the organizations had established. One respondent indicated that there are several potential budgets that can be used to fund these projects and that identifying which budget to use can complicate the process of completing projects. Three of the interview respondents reported that they had also completed projects that received funding through the Illinois Clean Energy Foundation[8] as well as through DCEO.

5.9.1.6. Goals and Sustainability Plans

Most respondents reported that their organizations have energy saving objectives, although none reported that their organizations had specific numerical energy saving targets. Respondents described sustainability plans focused on reducing carbon footprints, energy consumption, and energy costs. One respondent reported they have a "Green Team" that focuses on environmental concerns. Although respondents described these plans and objectives as not having "teeth" or as "verbal objectives," some indicated that they guide the procurement process to focus on project parameters related to energy consumption. Additionally, two respondents reported that their organizations track their facilities' energy consumption through monitoring bills and one reported using the Energy Star Portfolio Manager sponsored by ComEd.

5.9.1.7. Suggestions for Improvement

Interview respondents discussed suggestions for improving the DCEO program to facilitate participation by local government agencies. One idea presented was that awareness and understanding of the DCEO programs could be improved. Three respondents emphasized the need for clear information on how to complete the incentive application process including information on projects that qualify, the steps in the process, and what resources are available to help identify energy saving projects. One of these respondents suggested something similar to a recorded webinar that would demonstrate how the process could be effective.

[8] The Illinois Clean Energy Foundation was formed with an endowment from ComEd and provides grants to fund energy efficiency projects at nonprofit and government organizations.

Two respondents indicated that they thought that DCEO's outreach efforts were largely focused on the wrong people in local government agencies. These respondents suggested working with groups whose facility managers and public works directors belonged to professional organizations such as the Northwest Municipal Conference and the Illinois Chapter of the American Public Works Association.

One respondent stated that learning about the status of grants sooner would significantly help the planning process.

Some respondents described what they saw as the strengths of DCEO's programs. These included DCEO's outreach effort, the program website, the Peer Exchange (an event that presented information on DCEO programs), and the ease of the process. Specifically, respondents stated that working with the Metropolitan Mayors Caucus and 360 Energy made the process seamless. One person emphasized that receiving a DCEO sponsored audit was the gateway to participating in the incentive programs.

5.9.1.8. Conclusions

The following summarizes the key points and implications from the interviews with participating municipalities.

- Audits provided through the SEDAC building energy assessments program or through the partnership between the Metropolitan Mayors Caucus and 360 Energy were highly valued by interview respondents and considered to be key drivers of program activity. These assessments provided information about the potential projects available, and how to define bid specifications for projects.
- Franchise agreements that cover utility costs may not limit project activity. Only one respondent stated that the agreements may limit program activity, while the other respondents with franchise agreements indicated that the municipality's other objectives provided sufficient rationale for completing energy saving projects. For example, most interview respondents reported that they had energy saving objectives or sustainability plans. However, it is important to note that these respondents may be reluctant to suggest that environmental concerns or the energy costs that are passed on to the inhabitants of the municipality are insufficient reasons for focusing on saving energy.
- Decision-making about energy efficiency projects involve multiple steps and decision makers. Interview respondents reported that facility management staff typically initiates projects, but projects require review from other managers and approval by the governing board for the municipality, the city council, and/or the mayor. This complexity can slow decision making and complicate program outreach efforts. Other factors that can slow the project development include the need to target multiple people within an organization, and the fact that most municipalities have contracting requirements mandating multiple bids for projects.

- Some respondents expressed a preference for pursuing electricity saving projects over natural gas saving projects. Respondents explained that there was a perception that dollars for gas incentives would not adequately cover the cost of the project, and electricity funds were available first. Although these reasons do not explain why DCEO has had greater difficulty reaching its natural gas saving targets in the Nicor service territory, they do provide an explanation for why meeting natural gas savings goals has been more challenging than meeting electricity saving goals.
- DCEO may be able to improve outreach efforts by targeting associations such as the Northwest Municipal Conference and the Illinois Chapter of the American Public Works Association. The facility management staff members who often initiate energy saving projects are members of these organizations. Through these efforts there may be opportunities to develop a clear presentation of how to complete an incentive project that would better inform municipalities of the process.

5.9.2. Survey of Metropolitan Mayors Caucus Membership

The MMC provided an email contact list of its membership to assess non-participating municipalities' awareness of the DCEO incentives, internal processes, and resources to identify potential barriers to energy savings projects. To focus the survey on municipalities that have not participated in a DCEO program, known previous program participants were removed from the list. Previous program participants were identified using DCEO tracking data and MMC participant records.

The sample frame consisted of 72 MMC members. Email invitations were sent to the 72 members on three separate occasions. Four emails were returned as undeliverable, reducing the effective sample frame to 68 members. In total, 23 members of the sample completed the survey. However, nine of the survey respondents reported that they had already applied for or received a DCEO incentive for installing energy saving equipment. Thus, despite efforts to focus the survey on non-participants, the sample consisted of a mix of participant and nonparticipant municipalities.

5.9.2.1. Firmographics and Job Titles

Ninety-percent of survey respondents indicated that between 75% and 100% of their organizations' facilities were owned rather than leased. The respondents who owned less than 75% of their organization's facilities reported that they owned 0-25% or 50-75% of their organization's facilities.

Eighty-two percent of respondents stated that they received gas service from Nicor. The remainder received service from North Shore Gas. All but one respondent indicated they received electrical service from ComEd.

Table 5-8 displays the job titles of survey respondents. Most respondents were managers (52%) thirteen percent were public works directors, and four percent were public works staff. Thirteen percent of respondents held financial positions.

Table 5-8 Survey Respondent Job Titles

Job Title	*Percent of Respondents (n=23)*
Manager	52%
Facilities manager	0%
Energy manager	0%
Other facilities management/maintenance position	0%
Chief financial officer	9%
Other financial / administrative position	4%
Public works director	13%
Public works staff	4%
Other	17%

5.9.2.2. Franchise Agreements

A number of municipalities have franchise agreements established with their natural gas and electricity service providers. These agreements discount the cost of energy in part or in full through varying mechanisms. In exchange, municipalities give service provides the right of way for utility infrastructure and maintenance. Because the reduced cost of receiving electricity or natural gas service may create a disincentive for municipalities to implement energy saving projects, survey respondents were asked about the presences of these arrangements and the effect they may have on decision making as it relates to making energy saving improvements.

Table 5-9 and Table 5-10 display the share of survey respondents reporting that their municipalities have franchise agreements. For natural gas service, 39% percent of respondents reported that their organization has an agreement that covered the full cost of natural gas and an additional 30% reported that they have an agreement that covers part of the cost.

Table 5-9 Natural Gas Service Franchise Agreements

	Response	*Percent of Respondents (n=23)*
Does your organization have a franchise agreement with its natural gas service provider that covers part or all of the cost of its natural gas service?	Yes, the agreement covers all of the natural gas cost	39%
	Yes, the agreement covers part of the natural gas cost	30%
	No, we pay the full cost of natural gas service	22%
	No, we do not have natural gas service	0%
	Don't know	9%

With regards to electricity service, 26% of respondents stated they have an agreement that covers the full cost of the electricity service and 52% report that they have an agreement that covers part of the electricity service.

Table 5-10 Electric Service Franchise Agreements

	Response	*Percent of Respondents (n=23)*
Does your organization have a franchise agreement with its electric service provider that covers part or all of the cost of its electricity service?	Yes, the agreement covers all of the electricity cost	26%
	Yes, the agreement covers part of the electricity cost	52%
	No, we pay the full cost of electricity service	17%
	Don't know	4%

As shown in Table 5-11, 22% of respondents stated that franchise agreements make getting approvals for energy efficiency projects somewhat more difficult and a similar share (26%) stated that the agreements have no effect on project approval. A large share of respondents, 48%, did not know if the agreements impacted project approval.

Table 5-11 Effect of Agreements on Energy Efficiency Projects

	Response	*Percent of Respondents (n=23)*
Do the franchise agreements make getting approvals for energy efficiency projects....	A lot more difficult	0%
	Somewhat more difficult	22%
	Slightly more difficult	4%
	It has no effect on project approvals	26%
	Don't know	48%

A large share of organizations reported that they have a franchise agreement that covers part or the full cost of electricity or natural gas, and most respondents did not seem to think that these agreements had a large impact on approvals for energy efficiency projects.

5.9.2.3. Energy Efficiency Decision Making

Survey respondents were asked a series of questions related to how their organizations make decisions about energy efficiency improvements.

Table 5-12 displays the sources responding municipalities use to learn about ways to save energy. Natural gas and electric utilities (68%) and DCEO (55%) were both considered primary sources. Additional sources mentioned were the Metropolitan Mayors Caucus (41%), other associations for local governments (41%), journals and trade magazines (32%), and their regional planning agency (27%).

Table 5-12 Sources of Information on Saving Energy

	Response	*Percent of Respondents (n=22)*
3. What sources, if any, does your organization use to learn about ways to save energy?	Your gas and / or electric utility	68%
	The Illinois DCEO	55%
	The Metropolitan Mayors Caucus	41%
	Other associations for local governments	41%
	Contractors, vendors, or energy services providers	41%
	Journals or trade magazines	32%
	Our regional planning agency	27%
	The Smart Energy Design Assistance Center	9%
	The Energy Resources Center	0%
	Some other source (Please explain)	9%
	We have not sought information about energy efficiency from any source	0%
	Don't know	5%

**Since respondents were able to select more than one response, the sum of the percentages in the table above can exceed 100%.*

As shown in Figure 5-14, the payback period for an investment in energy efficiency was considered to be a very important factor by 70% of survey respondents and the reduction in utility costs was considered very important by 64% of respondents. Respondents may consider these factors to be important because some agreements cover energy costs up to a set amount, and as a result, the municipalities may still benefit from reducing their energy costs. Additionally, costs to fund the discounted utilities are generally passed on to residents and businesses in the municipality and decision makers may consider the impact of utility costs on these groups.

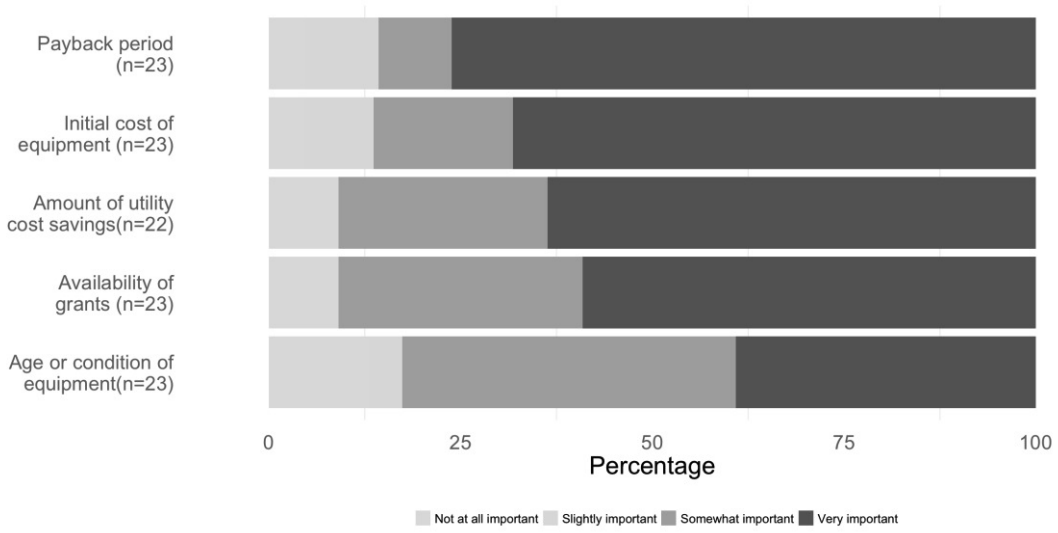


Figure 5-14 Importance of Factors Related to Energy Efficiency Decision Making

As shown in Table 5-13, nearly one-half of survey respondents reported that any incentive funds received would go to a general fund rather than the department or budget that funded the project. Not being able to recoup the costs of the funds spent on making the energy efficiency improvements may limit the effectiveness of incentive dollars to encourage energy saving projects.

Table 5-13 Whether or Not the Incentive Used would be Returned to the General Fund

	Response	*Percent of Respondents (n=23)*
If your organization completed an energy saving project and received a DCEO incentive, would the incentive be returned to the department or budget used to fund the project or would it return to a general fund?	The incentive would go to the department or budget that funded the project	26%
	The incentive would go to a general fund	48%
	Neither of these	4%
	Don't know	22%

A small share of respondents, 17%, indicated that their organizations had previously received grants or incentives from another organization.

Table 5-14 Previous Experience with Non-DCEO Funding

	Response	*Percent of Respondents (n=23)*
Not including DCEO, has your organization received any grants or incentives from any other external organization such as an Energy Efficiency Conservation Block Grant or a grant though the Illinois Clean Energy Community Foundation for an energy saving project?	Yes	17%
	No	61%
	Don't know	22%

5.9.2.4. Awareness of DCEO Incentive Programs

Seventy percent of survey respondents stated that they were aware that DCEO provided incentives for helping public sector organizations improve their energy efficiency and of these, nine respondents reported that they had applied or received incentives from DCEO for energy efficiency improvements.

Respondents who had not previously participated in a DCEO program were asked to indicate whether or not they were aware of various incentives and services that DCEO offers. As shown in Table 5-15, a larger share of respondents (88%) was aware of incentives for electricity saving projects than were aware of incentives for natural gas saving projects (44%). Awareness of incentives for new construction projects was also relatively high.

Table 5-15 Awareness of DCEO Incentives and Services

Which of the following services and incentives are you aware of?	*Aware*	*Not Aware*
Incentives for equipment that reduces natural gas consumption (n=16)	44%	56%
Incentives for equipment that reduces electricity consumption (n=16)	88%	13%
Retro-commissioning studies and facility audits that identify ways to save energy and are provided at no cost (n=16)	64%	36%
Incentives to incorporate energy efficient design features into new construction and building rehabilitation (n=16)	81%	19%

As shown in Table 5-16, roughly one-half of the respondents were aware of the services provided by the Metropolitan Mayors Caucus to help local government agencies plan energy saving projects and apply for DCEO grants.

Table 5-16 Awareness of Metropolitan Mayors Caucus Services

	Response	*Percent of Respondents (n=23)*
Were you aware that the Metropolitan Mayors Caucus offers services to help local government agencies plan energy saving projects and apply for grants funded through DCEO's Energy Now Programs?	Yes	57%
	No	43%

When asked if they knew where to get more information on DCEO incentive programs, about one-half of respondents (56%) indicated that they did know where to get this information.

Table 5-17 Awareness of Where to get More Information on DCEO Incentive Programs

	Response	*Percent of Respondents (n=16)*
Do you have a clear sense of where to get more information about DCEO incentive programs?	Yes	56%
	No	25%
	Don't know	19%

5.9.2.5. Energy Efficiency Needs

In order to better understand what assistance municipalities needed to facilitate completion of DCEO incentive projects, survey respondents were asked to assess various services in terms of how critical they are to completing energy saving project. Responses are summarized in Figure 5-15.

As shown below, financial assistance was most frequently cited as critical to completing an energy efficiency project. Forty-three percent of survey respondents considered this a critical factor. Other important factors were assistance in understanding what DCEO incentive options are available, assistance with identifying specific types of equipment and building features to save energy, and assistance in assessing potential energy savings resulting from projects.

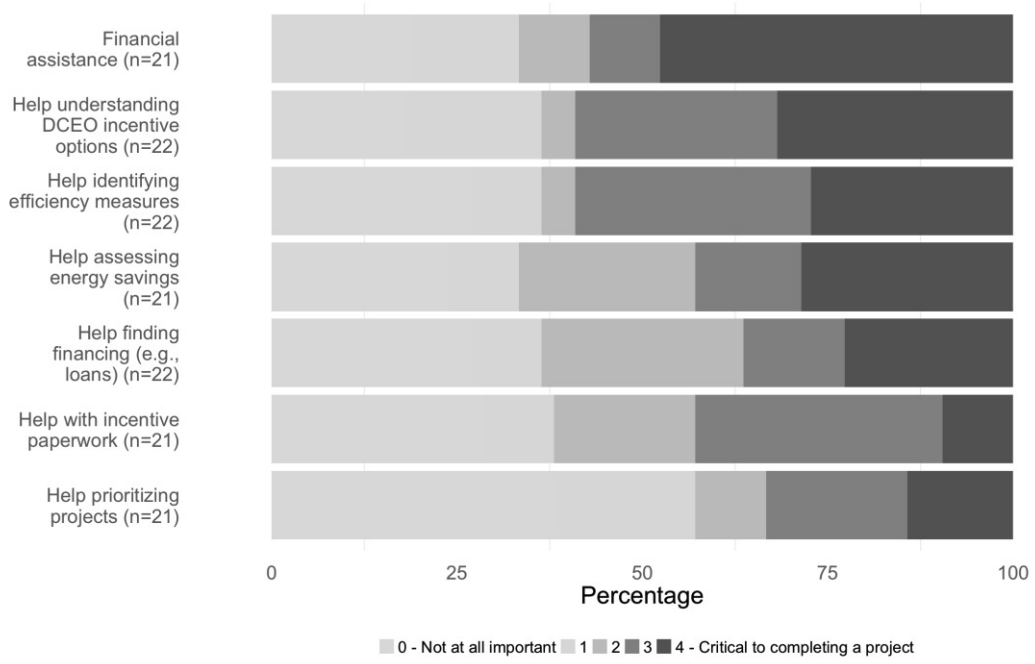


Figure 5-15 Criticality of Potential Services to Completing Incentive Projects

5.9.2.6. Future Energy Efficiency Plans

Fifty-two percent of respondents stated that their organizations had plans to make energy saving improvements in the next two years. As shown in Table 5-18, HVAC projects were most often sited, followed by lighting projects and projects involving data centers or information technology equipment.

Table 5-18 Types of Equipment Involved in Future Energy Efficiency Plans

	Response	*Percent of Respondents (n=12)*
What equipment or building features do these plans involve?	Heating, cooling, HVAC	75%
	Exterior lighting or lighting controls	58%
	Interior lighting or lighting controls	58%
	Data center or IT equipment	42%
	Windows	33%
	Insulation (ceiling, attic or wall)	17%
	Motors or motor controls	8%
	Water heating equipment	8%
	Food preparation / kitchen equipment	0%
	Refrigeration or freezing	0%
	Other	0%
	Don't know	0%

Most respondents with projects planned for the next two years reported that they were very likely (58%) or somewhat likely (25%) to apply to DCEO for project incentives.

Table 5-19 Likelihood of Applying for DCEO Incentives

	Response	*Percent of Respondents (n=12)*
How likely are you to apply for a DCEO incentive for those replacements or upgrades?	Very likely	58%
	Somewhat likely	25%
	Not very likely	0%
	Not at all likely	8%
	Don't know	8%

Respondents who expressed uncertainty about whether or not they would apply for DCEO incentives were asked what factors may lead them to not apply for a DCEO incentive. Reasons given included that the incentives are too low to be worth the effort of applying, the project is too small to be worth the effort of applying, and not knowing enough about the incentives. In open-ended comments, two respondents stated that they were not sure if the planned equipment would qualify and another indicated that the improvements would be made in a building where they do not pay for natural gas or electricity costs. This last respondent may have erroneously assumed that they are not eligible for incentives because they do not pay the cost of electricity and natural gas service.

Table 5-20 Reasons for potentially not Applying for DCEO Incentives

	Response	*Percent of Respondents (n=5)*
Why might you not apply for a DCEO incentive?	The incentives are too low to be worth the effort of applying	40%
	The project is too small to be worth the effort of applying	20%
	Don't know enough about the incentives that are available	20%
	Don't know how to apply for incentives from DCEO	0%
	Not applicable- Energy management firm or property manager will make decision	0%
	For some other reason (please explain):	60%
	Not sure	0%

5.9.2.7. Conclusions

The key findings from the survey are summarized below:

- Most respondents reported that they have franchise agreements that cover all or part of the cost of electricity (78%) and natural gas service (69%). However, none indicated that these arrangements made it a lot more difficult to get projects approved and only 22% indicated that it made it somewhat more difficult. This is consistent with what was reported in in-depth interviews of prior program participants. However, respondents may be reluctant to state that their organizations are unwilling to fund efficiency improvements in the absence of utility cost savings.
- Nearly one-half of respondents (48%) reported that the incentive funds for energy efficiency projects would not be returned to the department or budget that financed the project. This may prevent some organizations from implementing energy efficient equipment.
- Overall, there appear to be opportunities to improve awareness of the DCEO incentives and services. A smaller share of survey respondents indicated that they were aware of the natural gas incentives available (44%) than the share that indicated awareness of the electricity incentives (88%). Similarly, a sizable share of respondents indicated that they were not aware of the services provided by the Mayors Metropolitan Caucus that would help them complete a DCEO incentive project. Lastly, only 56% of respondents indicated that they knew where to get more information about DCEO incentive programs.
- The most critical needs for completing an energy efficiency project identified were financial assistance, better understanding of the DCEO programs, and assistance with identifying energy saving equipment.

5.10. Trade Ally Program

DCEO launched a trade ally program in October of 2011. The program is implemented by its partner, the Energy Resources Center (ERC) at the University of Illinois at Chicago. The trade ally program is funded primarily through the Energy Efficiency Portfolio Standard (EEPS). However, this past program year, the program received supplementary funding through a grant from the Department of Education (DoE) to improve energy efficiency in Illinois. The only contribution asked from trade allies is the entrance fee required at trade ally rallies.

There are four primary objectives of the trade ally program: increase the number of participating trade allies, increase trade ally participation in the DCEO incentives programs, provide training to trade allies, and facilitate interaction between public sector actors and trade allies.

5.10.1. Trade Ally Training

The trade ally program provides training in the form of webinars and lunch-and-learns. The webinars serve as a basic introduction to the DCEO programs for new trade allies and provide updates to existing trade allies. A major component of the basic training is helping trade allies navigate through the trade ally program website. The trade allies are provided with slides after the basic training. The basic training webinars are scheduled for every two months. In addition to the basic training webinars, ERC has hosted several webinars targeting specific public sectors (i.e., schools, parks and municipalities).

DCEO also provides technical resources to trade allies, such as access to in-house engineers and SEDAC staff. ERC provides a folder of marketing materials that trade allies receive upon request. Only newer trade allies usually need these folders. The majority of this information is available on trade ally program website.

The trade ally program hosts many trade ally rallies in order to recognize trade allies and aim to help trade allies become more involved and interactive. The rallies also allow the public sector customers to learn more about the program and increase interaction between the public sector and trade allies.

5.11. Trade Ally Perspectives

A telephone survey of DCEO registered trade allies was conducted in June of 2014. The trade allies were asked questions about:

- Types of energy efficiency services provided;
- Benefits of DCEO's Trade Ally Program;
- Participation in training webinars;
- Usefulness of training webinars;

- Participation in trade ally rallies;
- Benefits of trade ally rallies;
- Energy efficiency projects completed;
- Interaction with DCEO staff
- Awareness of the DCEO Programs among customers;
- Satisfaction with program elements; and
- Suggestions for improving the programs.

Telephone surveys and in-depth interviews were conducted with trade allies participating in the DCEO Trade Ally Program. ADM received a list of 361 DCEO registered trade allies in May 2014. Of the 361 trade allies, 359 had valid phone numbers. In total, 99 trade allies completed the survey.

5.11.1. **Trade Ally Background**

The surveyed trade allies' firms varied in size. As demonstrated in Table 5-21, the majority of trade allies (33%) came from very small firms with only 1 to 4 employees. A significant share of trade allies came from medium-sized firms with 20 to 99 employees (22%). Only 5% of trade allies were from large firms with 500 or more employees.

Table 5-21 Number of Employees at Trade Ally Firm

	Response	*Percent of Respondents (n=99)*
Approximately how many employees work at your firm?	1 to 4 employees	33%
	5 to 9 employees	12%
	10 to 19 employees	15%
	20 to 99 employees	22%
	100 to 499 employees	9%
	500 or more employees	5%
	Don't know	3%

The trade allies also came from various types of business. As shown in Table 5-22, the largest share of trade allies was electrical contractors (16%), distributors (13%) and manufacturers or manufacturer representatives (16%).

Table 5-22 Trade Ally Types of Business

	Response	*Percent of Respondents (n=99)*
How would you characterize your type of business?	Architect	3%
	Contractor - Electrical	16%
	Contractor - Mechanical	8%
	Distributor	13%
	Engineer	6%
	Manufacturer	14%
	Manufacturer representative	2%
	Vendor/Retailer	0%
	Other	37%

*Since respondents were able to select more than one response, the sum of the percentages in the table above may exceed 100%.

Respondents were asked whether they typically provide services to public sector entities, private sector entities, or both. The majority (81%) of the respondents provided services to both private and public sector entities. Only 10% provided services solely to public sector entities and 8% said they provided services only to the private sector. It is likely that the latter respondents were participants in the DCEO trade ally program because they were seeking to expand their client base to the public sector.

5.11.2. **Program Benefits**

The trade allies were asked about the benefits of participation in the Trade Ally Program. Specifically, they were asked if participating in the program broadened their public sector customer base, increased their sales, and/or was a source of information on new technologies or measures that could save energy for their customers. As seen in Table 5-23, the program was most beneficial as a source of information on new technologies or measures that could save energy for customers. Twenty-nine percent of respondents found that the program was not at all beneficial for increasing sales and 23% felt that it was not at all beneficial for broadening their public sector customer base. However, approximately a third of respondents felt that the program was beneficial or somewhat beneficial in increasing sales and broadening their public sector customer base.

Table 5-23 Benefits of the Trade Ally Program

Please indicate how beneficial the program is for...	*Very beneficial*	*Somewhat beneficial*	*Not at all beneficial*	*Don't know*
Broadening your public sector customer base	34%	35%	24%	8%
Increasing your sales	31%	27%	29%	12%
As a source of information on new technologies or measures that could save energy for your customers	40%	41%	14%	4%

5.11.3. **Participation in Training Webinars**

Respondents were asked about their firm's participation in training webinars hosted by DCEO's implementation partner, the Energy Resource Center (ERC). The majority of respondents (66%) noted that they attended at least one webinar. A third of the trade allies stated that neither they nor their colleagues attended a webinar. Of respondents who reported attending a webinar, Seventy-eight percent stated that they attended more than one webinar. The average number of webinars attended by the trade allies was 2.7.

As demonstrated in Table 5-24, the majority of trade allies noted that the training webinar they attended covered general application requirements (85%), qualifying equipment (63%), and navigating the Trade Ally Program (55%). However, a significant percentage of respondents (62%) stated that their webinars did not cover M&V requirements. According to the program staff, the webinar trainings primarily cover the application process. Specifically, trade allies are trained on how to complete necessary forms. While some M&V topics may be covered, this is not the primary intent of the webinars.

Table 5-24 Topics Covered by Training Webinars

Which of the following topics did the training cover?	*Yes*	*Don't know*
General application requirements (n=65)	85%	11%
Calculating savings and incentives (n=64)	66%	16%
Qualifying equipment (n=65)	63%	11%
Navigating the Trade Ally Program website (n=65)	55%	8%
How to sell the benefits of energy efficiency (n=65)	43%	15%
M&V requirements (n=65)	38%	17%

The respondents who attended the webinar trainings were asked to indicate the clarity of information presented in the training that they received. Table 5-25 shows that the majority of

trade allies (74%) felt that the information was very clear. Approximately 23% felt that the information was somewhat clear. None of the respondents felt that the information was somewhat unclear or very unclear.

Table 5-25 Clarity of Information in Training Webinars

	Response	*Percent of Respondents (n=65)*
How clear was the information presented in the training you received? Would you say…	Very clear	74%
	Somewhat clear	23%
	Somewhat unclear	0%
	Very unclear	0%
	Don't know	3%

Training webinar participants were asked whether the level of detail provided in the training was appropriate. As demonstrated in Table 5-26, the vast majority of trade allies (90%) felt that the webinars were about right with regard to the level of detail provided. Only 2% noted that the webinar trainings were too detailed. Further, only 5% stated that the webinar trainings were not detailed enough.

Table 5-26 Level of Detail Provided in Training Webinars

	Response	*Percent of Respondents (n=65)*
Would you say that the level of detail provided in the training was about right, too detailed, or not detailed enough?	About right	91%
	Too detailed	2%
	Not detailed enough	5%
	Don't know	3%

Trade allies were also asked whether the length of the training webinars was appropriate. As seen in Table 5-27, 94% of respondents noted that the training webinars were about right with regard to length. Only 2% felt that the trainings were too long, and an additional 2% felt that the trainings were not long enough.

Table 5-27 Length of Training Webinars

	Response	*Percent of Respondents (n=65)*
Would you say that the length of the training was about right, too long, or not long enough?	About right	91%
	Too long	2%
	Not long enough	5%
	Don't know	3%

The respondents who attended the training were asked about the comprehensiveness of the webinars. The trade allies were asked if there were topics not covered in the training that should have been. Approximately 69% of respondents felt that the webinar trainings were sufficient and

comprehensive. However, 15% felt that there were topics not covered in the training that should have been.

Table 5-28 displays the topics that trade allies indicated should have been covered in the training. The most common suggestion was to provide additional information on reaching public sector customers. Some of the specific comments were that the training should cover:

"how to seek out more public sector opportunities."

"better ways to network and get in front of customers."

"marketing outreach. It's an issue I've got with all energy programs. There doesn't seem to be a lot of marketing done other than relying on trade allies to put projects through."

Table 5-28 Training Topics Suggested by Trade Allies

	Response	*Percent of Respondents (n=8)*
What topics would you have liked to see covered?	Reaching customers	63%
	Technical topic	13%
	Participation requirements	13%
	New construction program information	13%

5.11.4. **Trade Ally Rally Participation**

Trade allies were asked whether or not they had attended any trade ally rallies. Approximately 58% had attended at least one trade ally rally. Only one respondent noted that someone else at their company had attended. Approximately 39% percent of trade allies stated that neither someone at their company nor they had attended a rally. These findings suggest that the trade allies are well attended by DCEO trade allies.

Respondents who had not attended any trade ally rallies were asked why they had not attended. Of the 40 trade allies who stated that no one from their firm had attended a trade ally rally, the reasons given for not attending, in descending order of the frequency with which they were mentioned were: insufficient time or schedule conflict (30%), the location was inconvenient (18%), did not know about rallies (18%), they were too new to the program (10%), lack of interest (8%), or they did not think that attending would be useful (5%).

Table 5-29 Reasons for Not Attending Trade Ally Rallies

	Response	*Percent of Respondents (n=40)*
Why have you not attended a rally?	Lack of time / schedule conflicts	30%
	Location is not convenient	18%
	Did not know about the rallies	18%
	New to DCEO programs	17%
	No interest / benefit	8%
	Other	8%

Respondents that attended the trade ally rallies were asked how useful the rallies were for getting updates on the DCEO incentive programs. As seen in Table 5-30, the vast majority of participants found that the rallies were very useful (73%) or somewhat useful (23%).

Table 5-30 Usefulness of Trade Ally Rally for Incentive Program Updates

	Response	*Percent of Respondents*
How useful was the rally for getting updates on the DCEO incentive programs? Would you say…	Very useful	73%
	Somewhat useful	23%
	Not very useful	4%
	Don't know	0%

Additional questions were asked to further assess the value of the trade ally rallies. Respondents were asked to rate how beneficial the trade ally rallies were in providing opportunities to network with other trade allies and to meet with potential public sector clients. As seen in Table 5-31, most respondents felt that the trade ally rallies were either very beneficial or somewhat beneficial for providing an opportunity to network with other trade allies and providing an opportunity to meet with potential public sector clients.

Table 5-31 Benefits of Trade Ally Rallies

Thinking about your experience at the trade ally rallies, how beneficial was the rally for each of the following:	*Very beneficial*	*Somewhat beneficial*	*Not at all beneficial*	*Don't know*
Providing an opportunity to network with other trade allies (n=57)	67%	23%	11%	0%
Providing an opportunity to meet with potential public sector clients (n=57)	39%	42%	18%	2%

5.11.5. DCEO Incentive Program Participation and Process

Trade allies were asked if they completed or assisted in the completion of any DCEO public sector energy efficiency incentive projects in the last year. Approximately 45% of the

respondents had completed or assisted in the completion of DCEO projects in the previous year. The average number of DCEO incentive projects completed was 27.

The respondents who completed DCEO public sector projects completed the projects through various programs. As seen in Table 5-32, over one-half (58%) of the projects were completed through DCEO Custom or Standard Incentive Programs. Fourteen respondents (31%) completed projects through the DCEO Retro-commissioning Program. In addition, nine respondents (20%) completed projects through the DCEO Boiler Tune-up Program. Further, seven respondents (16%) completed projects through the DCEO New Construction Program.

Table 5-32 Programs Energy Efficiency Projects Completed Through

	Response	*Percent of Respondents* (n=45)*
Which DCEO programs were these projects completed through?	DCEO Custom or Standard Incentive Programs	58%
	DCEO New Construction Program	16%
	DCEO Retro-commissioning Program	31%
	DCEO Boiler Tune-up Program	20%
	Don't know	0%

*Since respondents were able to select more than one response, the sum of the percentages in the table above can exceed 100%.

The trade allies who previously completed DCEO public sector projects were asked if there were any aspects of the application process that should be modified, and 47% said that there were. Suggestions for how to improve the process are summarized below in Table 5-33.

Table 5-33 Trade Ally Suggestions for Modifying Application Process

	Response	*Percent of Respondents (n=17)*
In what ways would you recommend the application process be changed?	Streamline process/Speed up approvals	24%
	Provide more detailed information on application	12%
	Confirmation that paperwork received/Notification of application status	12%
	Make it shorter	12%
	Add file upload capacity to website	6%
	Clarify guidelines for program participants	6%
	Make it easier to edit application	6%
	Provide guidelines earlier	6%
	Simplify lighting survey	6%
	Other	12%

5.11.6. **Interaction with Program Staff**

DCEO incentive program participants were asked about their interactions with program staff. First, they were asked if they sought assistance from program staff for incentive projects they were working on. Approximately 55% of the trade allies had sought assistance from program staff members, whereas 45% had not.

As seen in, Table 5-34, of the respondents who had sought assistance from program staff, 67% spoke with DCEO staff. Only one trade ally interacted with the Smart Energy Design Assistance Center (SEDAC) or the 360 Energy Group staff and one trade ally interacted with ERC.

The trade allies who communicated with program staff were asked what types of things they needed assistance with from program staff. As shown in Table 5-35, the most prominent reasons for contacting program staff included questions about qualifying equipment, and questions about how to complete an incentive application. However, trade allies also contacted program staff for general program information.

One-third of respondents indicated that they communicated with staff about other issues. Four of the respondents stated that these communications were about incentive amounts, two stated they had questions about qualifying a customer, and one was interested in other incentives programs that might be available.

All of the respondents noted that they received the assistance that they needed.

Table 5-34 Trade Ally Communication with Program Staff

	Response	*Percent of Respondents (n=24)*
With whom did you speak?	DCEO staff	67%
	Smart Energy Design Assistance Center (SEDAC) or 360 Energy Group staff	4%
	Energy Resources Center (ERC) staff	4%
	All three	8%
	Other	13%

Table 5-35 Reasons for Program Staff Communication

	Response	*Percent of Respondents* (n=24)*
What did you need help with?	General program information	33%
	Questions about how to complete an incentive application	33%
	Check on the status of an incentive application	8%
	Questions about the Trade Ally Network	0%
	Questions about using DCEO's or the Illinois Energy Now name or logo in promoting the program	4%
	Questions about qualifying equipment	42%
	Other	33%

*Since respondents were able to select more than one response, the sum of the percentages in the table above can exceed 100%.

5.11.7. Client Awareness and Completion of DCEO Incentive Projects

Trade allies were asked about their marketing effort, the level of clients' awareness of the incentives, share of jobs that relate to energy efficiency projects, clients acceptance of energy efficient equipment, and clients willingness to apply for incentives. The responses to these questions provide insights into the points in the trade ally delivery of the incentive programs where they may not be effectively reaching the target market.

A substantial share of trade allies, 71%, reported that they actively market the programs to their customers. However, among those trade allies who actively market the incentive programs, one-third said that less than 40% of their clients were aware previously aware of the incentives offered by DCEO.

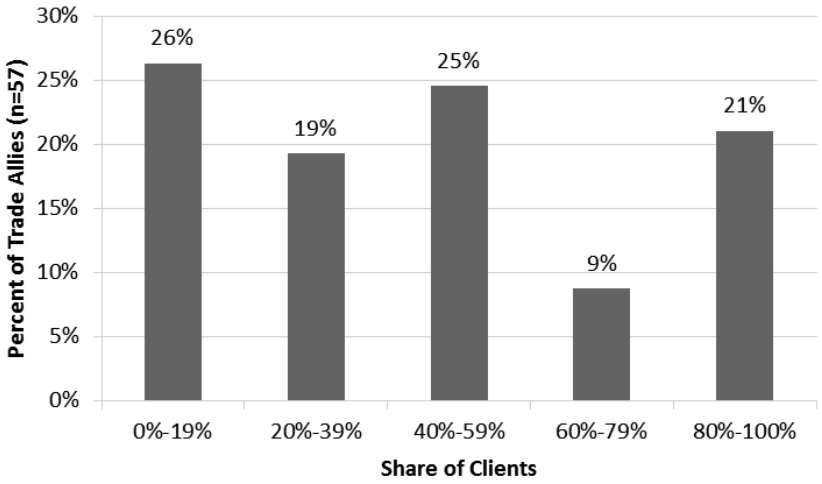


Figure 5-16 Awareness of Incentives

Trade allies were asked what percentage of all the jobs they completed in the past year could qualify for DCEO incentives. As Figure 5-17 shows, that a majority stated that 80%-100% of the projects proposed to or discussed with public sector clients involved equipment that qualified for DCEO incentives. However, more than a quarter of trade allies stated that less than one-fifth of the projects discussed with clients involved equipment that qualified for DCEO incentives.

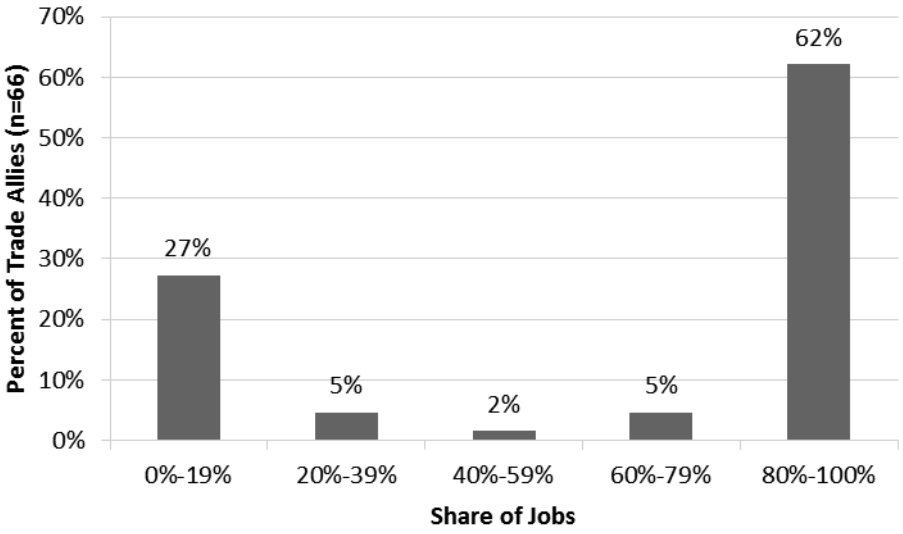


Figure 5-17 Projects Qualified for DCEO Incentives

The trade allies were also asked about the percentage of jobs in which clients agreed to most of the qualifying equipment proposed. As shown in Figure 5-18 the majority of trade allies (57%) noted that 80-100% of clients agreed to their proposed qualifying equipment. Only 14% of trade

allies stated that less than 40% of their clients agreed to implement most of the proposed qualifying equipment.

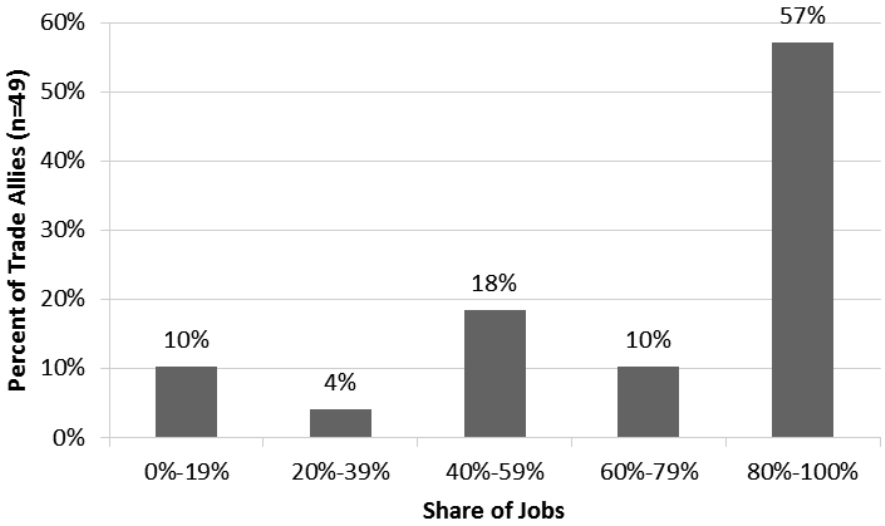


Figure 5-18 Client Agreement to Proposed Qualifying Equipment

Trade allies were asked the reasons clients gave for not installing the incentive qualifying equipment. Cost was the most frequently noted reason given by clients for not installing energy efficient equipment.

Table 5-36 Reasons for Not Installing Qualifying Equipment

	Response	*Percent of Respondents* (n=25)*
For those clients that didn't agree to install most of the incentive qualifying equipment, what reasons did they give?	Cost of energy efficient equipment	63%
	Uncertainty about potential energy savings	13%
	Time investment or paperwork requirements	12%
	No reason given by trade ally	8%
	Project timing or administrative issues	8%
	Energy efficiency not a priority	8%
	Insufficient funding	4%
	Disbelief of savings potential	4%

Finally, the trade allies were asked to describe what percentage of clients that accepted the qualifying equipment proposed chose to apply for a DCEO incentive. As seen in Figure 5-19 the majority (31) of trade allies stated that 90-100% of the public sector clients applied for a DCEO incentive.

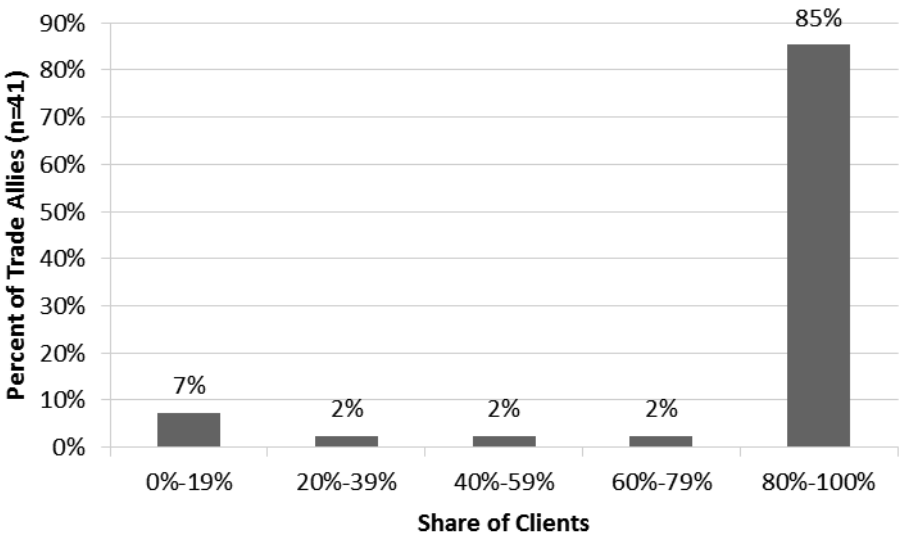


Figure 5-19 Clients Applying for DCEO Incentives

In summary, the key barriers to DCEO incentive projects are as follows:

- More than one-quarter of trade allies reported that they proposed efficient equipment options for less than 40% of their jobs. Although energy efficient equipment may not be feasible for all jobs, there may also be additional opportunities for these trade allies to develop DCEO incentive projects.
- Thirty-two percent of trade allies reported that less than 60% of the time, their clients agreed to implement most of the energy saving equipment proposed. Cost was the most commonly mentioned reason for not agreeing to the energy efficient equipment and likely reflects the financial conditions faced by public sector entities.
- For those clients that accept the proposed energy saving equipment, trade allies report that most apply for a DCEO incentive.

5.11.8. Challenges in Implementing Projects in State Buildings

To better understand the challenges to completing energy savings projects in the state buildings sector, trade allies were asked if they had proposed or discussed any projects with clients at facilities owned or leased by the Illinois State Agencies. Approximately one-third (36%) stated that they had.

Trade allies who indicated that they had proposed or discussed energy saving projects for the state buildings sector were asked if there were any challenges unique to completing projects at these facilities. Open-ended responses are summarized in Table 5-37.

Table 5-37 Coded Open-Ended Responses for Identified Challenges Unique to Completing Projects in State Facilities

	Response	*Percent of Respondents (n=37)*
Are there any challenges to completing incentive projects that are unique to state owned or leased facilities?	Complex decision making/approval processes	19%
	Funding	14%
	Slow approval process	11%
	Incentive doesn't go to facility	5%
	Incentives help	3%
	Longer to get paid	3%
	Hard to get leads	3%
	Unfair bid process	3%
	Lack of knowledge	3%
	Don't want to do additional paperwork	3%
	Other	11%
	No challenges identified	30%

As shown, the most common challenge, noted by 19% of the respondents, was the complex decision making and approval processes required for state facilities to implement energy saving projects. Some examples of this type of remark are:

> *"There are too many road blocks. There are too many people to go through and gain strong contacts. [Is it hard to reach decision maker?] We can't educate and try to convince people while we try and get business. It takes 6-9 months to pitch our products and by that time they will give the business away."*

> *"There are time constraints. Some projects don't start for 3-5 years and you never know what will happen in that time. The process is not clear and a lot of people have to approve it before anything is done."*

> *"There are more layers in the process. Particularly with administration, budgeting, and the approval process."*

Funding constraints were noted by 14% of the respondents. Examples of these types of comments include:

> *"They are not aware that there is money there for projects. I spend a lot of time educating and not negotiating."*

> *"Yes, because of budget constraints. The state's broke."*

Three trade allies (11%) noted that the approval process for state projects was slow. Lastly, two respondents noted that another barrier is that the incentive payment does not go to the facility. These comments were:

"Yes, we are working with one facility the [Facility] that because everyone there is a state employee, the incentive funding is tied to the Federal ID number for the employees which means that if they get incentives, it doesn't go back to the facility, it goes to the Illinois State pot that is managed under central management/ supply. The facility doesn't believe they can get any incentive money so the problem seems to be that the money is tied to the Federal employee ID number."

"They are not allowed to receive the incentive dollars so it just goes into the general fund, they don't get the money back, it just goes back to the general fund."

Trade allies were also asked if they had any suggestions for increasing program activity. Table 5-38 displays their suggestions. As shown, there was substantial variety in the types of suggestions made.

Table 5-38 Suggestions for Improving Program to Increase Projects Completed

	Response	*Percent of Respondents (n=21)*
Is there anything that DCEO could do to improve their programs so that more incentive projects are completed?	Increase incentives	14%
	Simplify/speed process.	14%
	Additional prescriptive incentives	10%
	More public sector contacts	10%
	Allow contractor to assist with RCx implementation	5%
	Allow contractor to keep incentive	5%
	Provide contacts for projects	5%
	DCEO needs more staff	5%
	Fund share of project cost	5%
	Improve communication	5%
	Increased promotion of program	5%
	Provide more feedback on application process	5%
	Need DCEO staff to verify TA sales claims about incentives	5%
	Offer a loan program to fund projects	5%
	Simplify/speed process.	5%
	Provide marketing materials	5%

5.11.9. Changes to Types of Equipment and Services Provided

Respondents were asked if their involvement in the DCEO energy efficiency incentive programs affected the types of equipment or services that they provide. Twenty-eight percent of participants stated that participation in the programs did affect their equipment and services selection. These respondents were asked how their participation impacted the equipment and services provided. As seen in Table 5-39, 33% stated that program participation made them offer new types of energy efficient equipment or services. In addition, 22% noted that program

participation encouraged them to offer more energy efficient equipment or services. Further 11% stated that the program made them recommend equipment that qualifies for program more often.

Table 5-39 Impacts of Incentive Program on Trade Ally Equipment/Service Options

	Response	*Percent of Respondents (n=29)*
In what ways has your involvement in the incentive programs affected the types of equipment or services that you provide?	Offer more energy efficient equipment or services	24%
	Offer new types of energy efficient equipment or services	34%
	Recommend equipment that qualifies for program	10%
	Help customers identify energy saving opportunities	7%
	Other	24%

5.11.10. Program Satisfaction

Respondents were asked about their satisfaction with various aspects of the program. As seen in Table 5-40, trade allies were most satisfied with the range of measures and products for which DCEO offers incentive and the DCEO incentive programs overall. Eighty percent of respondents were either very satisfied or satisfied with the range of measures and products for which DCEO offers incentives. Eighty seven percent of the trade allies were either very satisfied or satisfied with the DCEO incentive programs overall. Six respondents were either dissatisfied or very dissatisfied with the program application process. Further seven, respondents were either dissatisfied or very dissatisfied with the range of measures and products for which DCEO offers incentives.

Table 5-40 Levels of Satisfaction

Program Component	*Very Satisfied*	*Satisfied*	*Neither Satisfied nor Dissatisfied*	*Dissatisfied*	*Very Dissatisfied*	*Don't know*	*Average*
The program application process (n=99)	30%	42%	16%	5%	1%	5%	4.0
The range of measures and products for which DCEO offers incentives (n=99)	46%	34%	8%	2%	5%	4%	4.2
The level of incentives offered (n=99)	30%	56%	5%	2%	3%	4%	4.1
The DCEO incentive programs overall. (n=99)	41%	46%	6%	2%	0%	4%	4.3

5.11.11. Summary

Overall, trade allies appeared to have benefitted from participation in the trade ally program. Respondents indicated that the program was most beneficial with regard to the source of

information on new technologies or measures that could save energy for customers. Some respondents also felt that the program was beneficial in broadening their public sector customer base and increasing their sales.

Trade ally webinar trainings and rallies were also valued by respondents. Respondents felt that these training webinars were appropriate with regard to level of detail, clarity, and length. Trade ally rallies were particularly useful to respondents. They provided opportunities to network with other trade allies and to meet with potential public sector clients.

Satisfaction levels were high across various components of the program. The majority of participants were satisfied with the range of measures and products for which DCEO offers incentives, the level of incentives offered, and the overall DCEO incentive programs.

6 Conclusions and Recommendations

The interviews and surveys that were conducted with EPY6/GPY3 participants in the Custom and Standard Incentives Programs, and participants in the New Construction Program suggest that the programs were effective in their delivery and operations.

6.1 Key Conclusions

The following presents a selection of key findings from EPY6/GPY3:

- **Combined Gross Realized Savings Decreased from Prior Program Year**: In comparison to last year, the realized gross electric and natural gas savings for all three programs combined decreased. The lower activity was due to decreased Custom and New Construction Incentives Program savings. Realized gross savings for the Standard Incentives Program increased from EPY5/GPY2.
- **DCEO and Partners Working to Provide a Clear, More Consistent Brand:** DCEO's partners have adopted the Illinois Energy Now branding. The intent is to provide a clear message to the market and to communicate to public entities the partnership with the incentive programs. The Smart Energy Design Assistance Center (SEDAC) plans to host a support call center for program participants.
- **Multiple New Initiatives Launched:** DCEO launched several new initiatives during the program year including: The Clean Water Energy Efficiency Initiative directing participants to leverage funding provided by the Illinois EPA and the Illinois Clean Energy Community Foundation to implement high efficiency aeration systems, a pilot project for data centers, and a bonus incentive for large custom gas projects that exceeded 50,000 therms to increase natural gas savings.
- **Database Improvements are needed to Track New Construction Projects and Meet Accounting Requirements:** Improvements need to be made to the database because it was found to be insufficient for tracking the early phases of new construction projects, and does not accurately report annual program expenditures.

Key findings from interviews with staff in the state buildings sector and a review of state policy pertaining to energy efficiency in state government are summarized below.

- **There are State Policies in place to Encourage Energy Efficiency in State Buildings, but Budget Policy Limits Implementation Potential:** There are several state policies that encourage or require the state to adopt energy conservation measures in existing and new facilities. However, reductions in state agency appropriations and the under-funding of

capital budgets present significant constraints on resources available for the implementation of energy saving measures.

- **Decision Making and Approval Processes are Complex:** The approval processes for energy efficiency projects is complicated and it may involve either staff from the agency that is primarily using the building or CMS staff, depending on which agency has primary responsibility for the building. In addition, larger capital improvement projects require additional approval by the Capital Development Board (CDP). The multiple decision makers and organizations involved in the process likely create challenges for program outreach and for trade allies seeking to develop business opportunities by encouraging energy efficiency improvements in state buildings. Trade allies noted that there were many parties involved in making decisions about equipment purchasing for state buildings and approval processes were slow.
- **Agencies Lack Budget Line Item for Incentive Projects to Participation:** Some agencies do not have a line item in their budgets for incentive dollars from DCEO. Incentives for these agencies are funneled into the general fund rather than funding the agency directly. This likely reduces the efficacy of incentives for encouraging energy efficiency projects. One large agency has developed a solution that uses funds for managing cash flow to finance projects. Other agencies may be able to replicate this strategy.
- **Funding Constraints Create Multiple Barriers:** The lack of state funds for capital improvements and agency facilities disincentives the replacement of old equipment, or equipment that is not operating optimally. Because of the lack of capital funds, most capital improvements are approved only to make emergency repair. Energy saving options may not be fully considered in these cases because short time frames to identify energy efficient equipment options and to apply for grant opportunities. Complicating this, many state facilities have older equipment that is more expensive to replace than newer equipment more commonly found in private sector buildings.

  Some state government entities such as state universities and the Department of Military Affairs have access to non-state funds that are available to pay for energy efficiency improvements. The availability of these funds likely contributes to the higher level of participation by state universities.
- **New Construction Program Time Requirements and Lack of Incentives for Incorporating Design Features Limit Participation:** Allowing projects to span multiple grant years may improve new construction program activity. Additionally, either providing incentives to designers or more fully leveraging SEDAC design assistance to incorporate efficiency may encourage additional projects.
- **Support Services Provided by ERC and SEDAC are Valued:** Staff of several state agencies stated services provided by ERC and SEDAC are valued for developing energy saving projects.

Key findings from decision makers from local government agencies in the Chicago metropolitan area collected through interviews and surveys are summarized below.

- **Local Government Decision Making and Approval Processes are Complex:** Decision making about energy efficiency projects involves multiple decision makers, as is typical of public sector organizations. Interview respondents reported that facility management staff typically initiates projects, but projects require review from other managers and approval by the governing board for the municipality, the city council, and/or the mayor. This can complicate program outreach efforts because it increases the complexity and timeline of the approval process. Most municipalities have specific contracting requirements, which may affect project implementation timelines.
- **Barriers to Natural Gas Projects:** Three barriers to natural gas projects were identified: natural gas incentives cover a smaller share of equipment cost than incentives for electricity efficiency projects; organizations have already planned electricity efficiency projects; and there is less awareness of natural gas incentives. These factors explain why meeting natural gas efficiency goals has been more challenging than meeting electricity efficiency goals, but do not explain why DCEO has had greater difficulty reaching its natural gas saving goals in the Nicor service territory.
- **Opportunities to Improve Awareness and Understanding of Programs:** DCEO may be able to improve outreach efforts by targeting associations such as the Northwest Municipal Conference and the Illinois Chapter of the American Public Works Association. The facility management staff who often initiate energy saving projects are members of these organizations. There may also be opportunities to develop a clear presentation of how to complete an incentive project that would better inform municipalities of the process.
- **Franchise Agreements may have Moderate Impact on Completion of Incentive Projects:** Program staff has noted that franchise agreements that cover all or a portion of municipality energy costs may limit program activity. Interview and survey responses suggest that these agreements may have a moderate impact on program participation. Most survey respondents report that they have franchise agreements that cover all or part of the cost of electricity (78%) and natural gas service (69%). However, none indicated that these arrangements made it much more difficult to get projects approved and only 22% indicated that it made it somewhat more difficult. One interview respondent indicated that not having utility costs made getting approval for energy efficiency projects more difficult. The effect of these agreements may be greater than respondents stated. Respondents may be reluctant to report that the agreements reduce their motivation to complete energy saving projects that could result in environmental benefits and reduce municipal energy costs being passed on to residents.

- **Incentive Dollars May Not be Returned to Budgets used to Finance Projects:** Nearly one-half of respondents (48%) reported that the incentive funds for energy efficiency projects would not be returned to the department or budget that financed the project. As such, some organizations may not implement energy efficient equipment because the incremental costs are not recouped.
- **DCEO Sponsored Audits and Project Reviews are Highly Valued:** Interview respondents valued audits and project reviews performed by SEDAC and the 360 Energy Group. These services provided a credible source of information on energy saving improvements, assisted with the development of projects, and provided clear equipment specifications used to develop bid requests.

6.2 Program Recommendations

The following recommendations are offered for improving the DCEO public sector programs.

- **Consider Outreach to Additional Associations:** Outreach efforts to groups such as the Northwest Municipal Conference and the Illinois Chapter of the American Public Works Association may be effective at reaching municipal facility staff who often initiate energy efficiency projects.
- **Continue to Leverage Audits and Project Reviews as Gateway to Program Participation:** Energy assessments and project reviews appear to be an effective means of assisting public entities with developing energy saving projects. Program staff should continue to leverage these services and target non-participating organizations to encourage participation in the incentive programs. Moreover, specifically targeting utility service territories where the programs are underperforming may improve goal attainment.
- **Explore Financing Mechanisms for Government Agencies:** Incentive payments are often not returned to the state agency budget used to pay for the improvement. Program staff should explore models developed by other state agencies for funding energy efficiency improvements in the absence of a budget line for accepting incentives can be applied elsewhere. DCEO should leverage its position on the Energy Efficiency Committee to press for the implementation of budget line items for state agencies to receive incentives mandated by Executive Order 7 of 2009.

  Similar budget issues may limit the effectiveness of the incentives for local government agencies. Staff should also consider implementing a utility bill credit process to fund efficiency projects for other public sector entities.
- **Opportunity to Improve Consistency of Program Information and Relevance:** Program staff reported that their partners were adopting consistent use of the Energy Now Brand to communicate that the DCEO energy efficiency incentives and technical services are part of a single program. SEDAC will be hosting a call center that will be the main telephone contact for program participants. These developments are moving the DCEO programs to a more consolidated presence. However, additional improvements are possible. For example, program information can be found separately on the DCEO, SEDAC, and ERC websites. Creating a single site that is used by DCEO and its partners to present information that is organized effectively may encourage program participation and help establish the DCEO programs a resource for energy efficiency. For example, the information could be presented by target market (e.g., state agencies, municipalities, parks departments), by facility type (e.g., waste water treatment facilities, correctional facilities, or public pools), by equipment type (e.g., lighting equipment, kitchen equipment), or by some combination of these options.
- **Monitor Effectiveness of Sweet Deal Bonus:** Although program activity spiked around the two deadlines for the sweet deal bonus (October 31st and February 14th), it is unclear if these

bonus incentives influenced additional projects or shifted their timeline to earlier in the program year. It is important to note that for both the Standard and Custom Programs, the majority of savings occurred after the sweet deal timeline had passed.

- **Consider Specialized Training to Trade Allies to help them Navigate Public Sector Approval Processes:** Trade allies reported issues developing projects at state agencies involving complex decision-making processes and slow approval processes. These issues are also found in other public sector entities. Staff may be able to provide guidance to trade allies on navigating decision-making processes at public sector organizations to make the process more transparent and facilitate their ability to sell projects.

Appendix A: Site-Level Reports

Name N-1

Executive Summary

Application N-1 received custom incentives from Illinois DCEO for above-code renovations. The electric realization rate for this project is 259%, and the natural gas realization rate is 41%.

Project Description

The customer made above-code renovations to the existing structure and the new construction addition to the school. The above-code renovations include: high efficiency rooftop packaged VAV equipment, high efficiency boilers, high efficiency domestic hot water boiler, insulation, and windows.

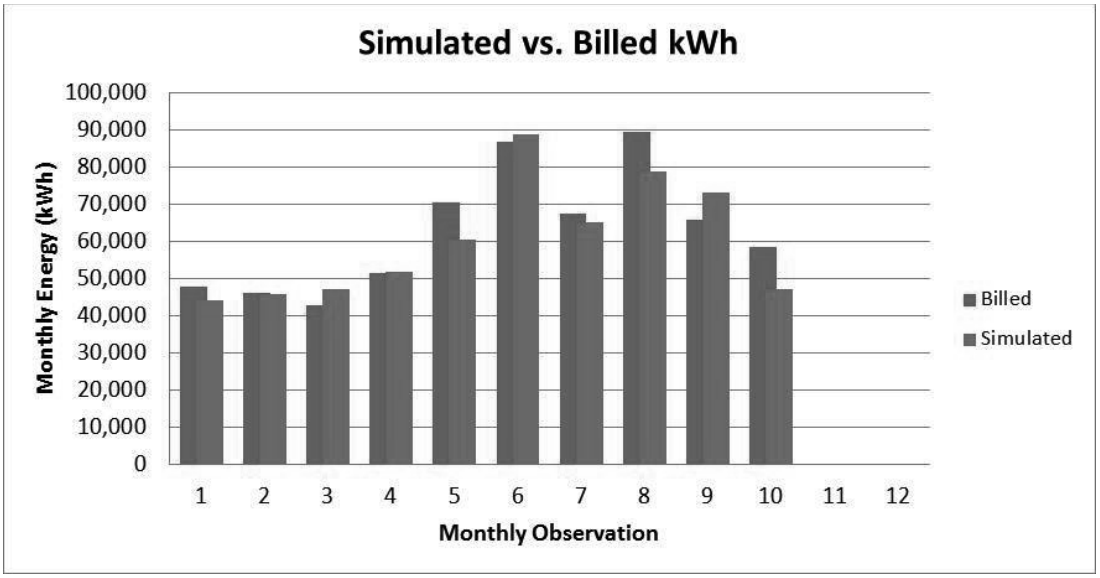
Methodology for Estimating Gross Savings

During the M&V visit, ADM staff verified that the above-code measures. To verify the energy savings for the measures, ADM field staff documented equipment nameplates, construction documents, and mechanical schedules.

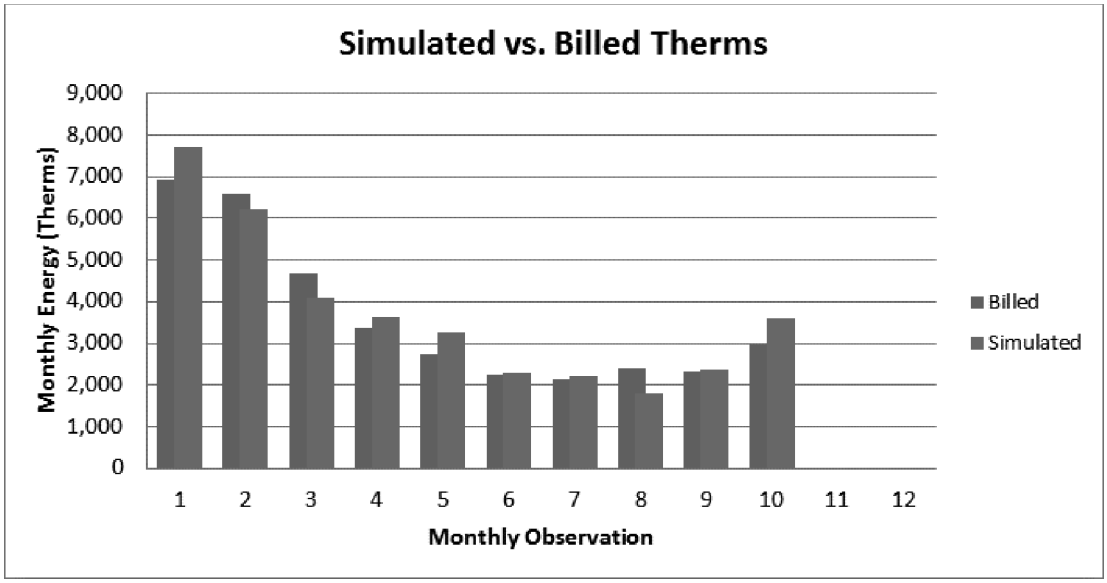
Custom Incentives

Energy savings were calculated using eQuest modeling of the school. ADM compiled a model of the as-built facility. Upon the completion of the initial model, a custom weather file was created using 2014 NOAA weather data for the Chicago Midway area. Using this weather file and billing data for the facility, ADM was able to ensure that the model's energy load shape matched that of the bills. The results of this calibration effort can be seen below:

2014 Monthly kWh Calibration



2014 Monthly Therms Calibration



Upon completion of the calibration for the as-built eQuest model, a baseline model was created in which all the above-code measures were removed. Once the baseline model was completed, the baseline and as-built models were run using TMY3 weather data for the region. The typical year annual savings is the difference between the two models' annual consumption and can be seen below:

As-Built Vs. Baseline Annual Energy Consumption

End-Use	Baseline kWh	As-Built kWh	Annual kWh Savings	Baseline Therms	As-Built Therms	Annual Therm Savings
Lighting	273,389	239,215	34,174	0	0	0
Miscellaneous Equipment	113,474	113,474	0	0	0	0
Heating	2,564	2,718	-154	24,026	22,417	1,609
Cooling	235,137	197,747	37,390	0	0	0
Heat Rejection	0	0	0	0	0	0
Pumps	22,626	22,969	-343	0	0	0
Fans	108,622	109,103	-481	0	0	0
Domestic Hot Water	0	0	0	31,673	26,859	4,814
Total	**755,811**	**685,226**	**70,585**	**55,700**	**49,276**	**6,424**

Measure-level Gross Savings Results

Custom Incentives

The tables shown below present the verified gross savings for measures that received standard incentives.

Annual kWh Savings for Above Code Renovations

Measure	Annual Gross kWh Savings	
	Ex Ante	ADM Calculated Ex Post
Above Code Renovations	27,201	70,585
Total	27,201	70,585

Annual Therms Savings for Above Code Renovations

Measure	Annual Gross Therms Savings	
	Ex Ante	ADM Calculated Ex Post
Above Code Renovations	15,520	6,424
Total	15,520	6,424

Project-level Gross Savings Results

The tables shown below present the verified gross savings for this project.

Verified Electric Savings/Realization Rates

Incentive Type	*Measure Category*	*Annual Gross Savings*				*Lifetime Gross Savings*
		Ex Ante kWh	*Ex Post kWh*	*Realization Rate*	*Ex Post Peak kW Reduction*	*Ex Post kWh*
Custom	Above Code Renovations	15,520	70,585	259%	-	1,058,775[9]
Total		***15,520***	***70,585***	***259%***	***-***	***1,058,775***

Verified Natural Gas Savings/Realization Rates

Incentive Type	*Measure Category*	*Annual Gross Savings*			*Lifetime Gross Savings*
		Ex Ante Therms	*Ex Post Therms*	*Realization Rate*	*Ex Post Therms*
Custom	Above Code Renovations	15,520	6,424	41%	96,354
Total		***15,520***	***6,424***	***41%***	***96,354***

The 259% verified electric realization rate is due to differences in analysis approaches. The ex-ante analysis used and un-calibrated Trane Trace model. The ex post used calibrated eQuest simulation. The main difference in total realized savings is that the Trane Trace model had a significant fan energy penalty for the as-built model. The ex post model only had a small fan energy penalty.

The 41% verified natural gas realization rate is due to the ex post model being calibrated. The ex-ante model assumed a larger heating load, which resulted in an over estimate of savings.

[9] The lifetime savings were calculated by multiplying typical first year savings by the expected useful life of 15 years. California DEER Effective Useful Life worksheets: EUL_Summary_10-1-08.xls

Name S-1

Executive Summary

Application S-1 received standard incentives from Illinois DCEO for retrofitting lighting and installing boilers, gas water heaters, and a total of ground source heat pumps as part of a standard project. The electric realization rate is 55%, and the natural gas realization rate is 93%.

Project Description

The customer retrofitted or installed the following fixtures in their facility:

- (57) 72w 4' 2LT12 fixtures with (57) 38w 2x2 LED fixtures
- (51) 144w 4' 2LT12 fixtures with (64) 38w 2x2 LED fixtures
- (7) 150w MH wall packs with (7) LED 30w LED wall packs in the exterior
- (9) Incandescent exit signs with (7) LED exit signs
- (61) 4' 4LT12 fixtures with (61) 4' 2LT5HO fixtures
- (15) 4' 2LT12 fixtures with (15) 4' 2LT8 fixtures
- (3) hot water boilers
- (5) gas water heaters
- (1) 7 ton, (1) 14 ton, (1) 16 ton, (40) 20 ton, and (3) 25 ton water source heat pumps

Methodology for Estimating Gross Savings

During the M&V visit, ADM staff verified that the boilers, water heaters, and WSHPs were installed. During this time ADM collected name plate information to compare against invoices and the project application. ADM staff documented fixture quantities and interviewed the site contact to verify operating hours.

Standard Incentives

Energy savings were calculated according to the Illinois TRM Version 2.0.

For the lighting retrofit TRM sections 4.5.3, 4.5.4, 4.5.5, and 4.5.12 were used.

ELECTRIC ENERGY SAVINGS

$$\Delta kWh = \left(\frac{Watts_{base} - Watts_{EE}}{1000}\right) * Hours * WHF_e * ISR$$

Where:

$Watts_{base}$	= input wattage of the existing system
$Watts_{EE}$	= new input wattage of EE fixture
WHF_e	= waste heat factor to account for cooling energy savings
ISR	= In service rate = % of units rebated that get installed

SUMMER COINCIDENT PEAK DEMAND SAVINGS

$$\Delta kWh = \left(\frac{Watts_{base} - Watts_{EE}}{1000}\right) * WHF_d * CF * ISR$$

Where:

WHFd = waste heat factor to account for cooling demand savings

CF = Summer Peak Coincidence Factor

ADM estimated the water source heat pump energy savings according to the Illinois TRM Version 2.0, Section 4.4.9 Heat Pump Systems.

ELECTRIC ENERGY SAVINGS

For units with cooling capacities less than 65 kBtu/h:

$$\Delta kWh = \text{Annual kWh Savings}_{cool} + \text{Annual kWh Savings}_{heat}$$

$$\text{Annual kWh Savings}_{cool} = (kBtu/h_{cool}) * [(1/SEERbase) - (1/SEERee)] * EFLH_{cool}$$

$$\text{Annual kWh Savings}_{heat} = (kBtu/h_{cool}) * [(1/HSPFbase) - (1/HSPFee)] * EFLH_{heat}$$

For units with cooling capacities equal to or greater than 65 kBtu/h:

$$\Delta kWh = \text{Annual kWh Savings}_{cool} + \text{Annual kWh Savings}_{heat}$$

$$\text{Annual kWh Savings}_{cool} = (kBtu/h_{cool}) * [(1/EERbase) - (1/EERee)] * EFLH_{cool}$$

$$\text{Annual kWh Savings}_{heat} = (kBtu/h_{heat})/3.412 * [(1/COPbase) - (1/COPee)] * EFLH_{heat}$$

Where:

$kBtu/h_{cool}$	= capacity of the cooling equipment in kBtu per hour (1 ton of cooling capacity equals 12 kBtu/h).
	= Actual installed
SEERbase	=Seasonal Energy Efficiency Ratio of the baseline equipment; see table below for values.
SEERee	= Seasonal Energy Efficiency Ratio of the energy efficient equipment.
	= Actual installed
$EFLH_{cool}$	= cooling mode equivalent full load hours
HSPFbase	= Heating Seasonal Performance Factor of the baseline equipment; see table above for values.
HSPFee	= Heating Seasonal Performance Factor of the energy efficient equipment.